Trains & Travel

RAILROAD AND PHOTO ANNUAL 1953

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BY THE EDITORS OF *TRAINS & TRAVEL* MAGAZINE
THE POPULAR MAGAZINE ABOUT RAILROADS

The motorman of a Chicago-bound electric train of the Chicago, Aurora & Elgin catches the highball at Wheaton, Ill., site of CA&E's shops. The train will go into Chicago over the city's elevated railway.

Cover painting by Howard Fogg, courtesy American Locomotive Co.

Railroad and Photo Annual 1953

By the editors of
Trains and Travel magazine

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Donald Sims.

The Abraham Lincoln and the Ann Rutledge, twin streamliners, have ticked off the miles between Chicago and St. Louis since 1937 under two banners, that of the Alton and that of the Gulf, Mobile & Ohio. Each makes a round trip a day. Here the Ann backs into the St. Louis station.

Memories of a railroad passenger . . .

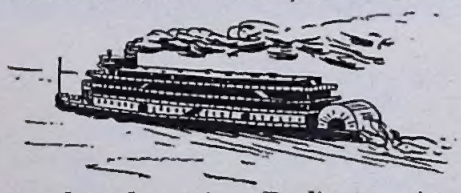
. . . Travel Vignettes

BY A. C. KALMBACH

IT takes far less than the whistle of No. 57 on the night air to make me want to go train riding . . . not even one of those tantalizing pages in the *Official Guide*. . . . All that's needed is memory.

Memories of little open-platform coaches winding through the woods and under the granite cliffs of the northern Michigan Peninsula on the Copper Range; memories of a succulent slice of roast beef in the *Century* diner with Count Felix von Luckner across the aisle doing sleight-of-hand for the late dining passengers and the crew; memories of the snow-frosted peaks of Glacier National Park as seen across Whitefish Lake in the setting sun from the lounge car of the *Empire Builder*.

Waving fields of wheat and then cactus and desolate miles of black volcanic rock, all in the same day of riding the Santa Fe. . . . Mississippi River steamboats whipping a spray with their stern wheels, seen from a



grandstand seat in a Burlington vista dome. . . . The white-hot billets of steel that warm even the air-conditioned interior of a B&O car as it runs right through a steel mill in Pittsburgh.

Mile after mile (113, count 'em) of Pacific Coast sparkling in the afternoon sun alongside SP's *Daylight*. . . . The unbelievably far-up and spidery-thin web of the Royal Gorge bridge seen from the bottom of the canyon during the stopover of Rio Grande's *Royal Gorge*. . . . The other trains always in fascinatingly close view as we swing 'round Pennsylvania's Horseshoe Curve.

Bannerman's fantastic rock castle, a piece of the Old World transplanted into the Hudson River alongside the route of the *Empire State Express*. . . . Merchandise Mart, world's largest commercial building, spreading its thousands of window lights onto the Chicago River as the *Arrow* slides out of Union Station on the Milwaukee Road. . . . A Katy steam locomotive, yellow oil flame spurting from its firebox, streaking across the Texas prairie, seen from a bounding Texas Electric interurban with the breeze whipping through the open windows.

The Front Range of the Rockies coming into view disguised as a far-off bank of clouds while the UP's *City of Denver* approaches the city of Denver. . . . The endless parade of ships through the Detroit River viewed from seats on the 50-yard line, a Grand Trunk car ferry taking us on the last lap of a journey from Canada into Detroit. . . . The huge electrically lighted figure 1 on the First National Bank signaling St. Paul as the *Hiawatha* rounds a curve of the Mississippi. . . . Lake Michigan, foaming white and dull gray under storm clouds, seen from the warm comfort of a *400* coach.

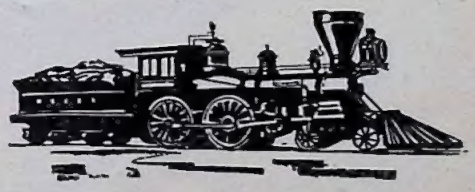
The soft green beauty of New England hills and white church spires in the valleys below the Rutland. . . . The wildness of the Adirondacks where the New York Central runs along a forest trail through the evergreens with glimpses of green water beyond the tree trunks. . . . The wild flowers beneath the windows of Maryland & Pennsylvania's doodlebug, remindful of childhood walks through the woods in May. . . . Whirlpool Rapids, wild and gray and almost unreal, directly below the Lehigh Valley-Grand Trunk sleeper as it crosses the Niagara River at dawn.

French-speaking, French-looking local passengers in the coach out of Montreal. . . . Important-looking characters, maybe politicians, maybe 5-per-centers, in the lounge of the *Congressional*. . . . School teachers, no doubt about it, on the *Grand Canyon*. . . . Blasé, sleepy produce buyers on the 4:35 a. m. Milwaukee Road train to Chicago.

Endless miles of Nevada desert, with the inevitable mountains in the distance, and dry washes along the UP tracks. . . . The raw, primeval rock of the Feather River Canyon viewed from a balcony seat atop the *California Zephyr*. . . . The majesty of the College Peaks rising above the Rio Grande tracks in the Arkansas Valley south of Tennessee Pass. . . . The tall tales of blizzards and washouts in years gone by, contributed by deadheading crewmen in the smoking car of the night local *Mail*.

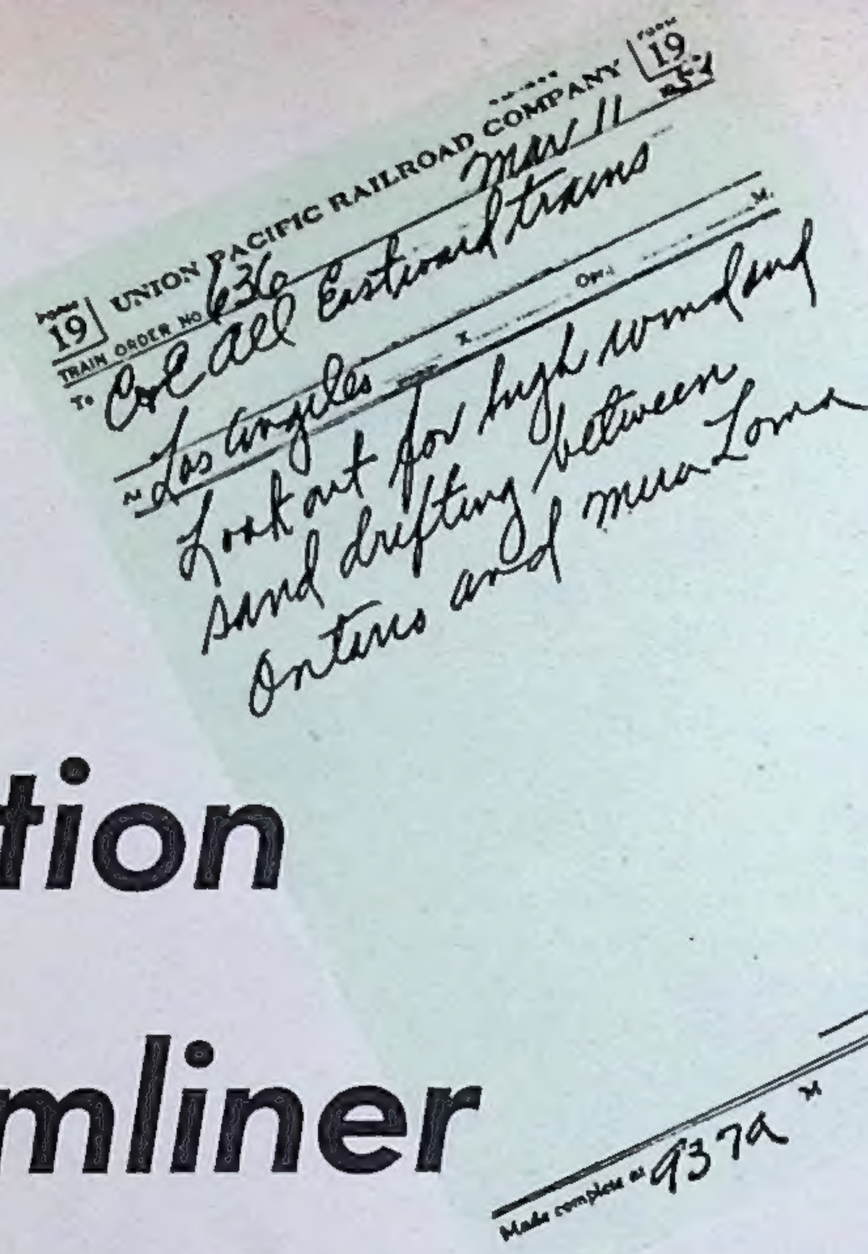
The green of Potomac Valley foliage outside the dining car windows of the *Capitol Limited*. . . . The white round moon shining coldly on snow-covered Allegheny slopes seen from a darkened bedroom of that same *Capitol Limited*. . . . Ice, spray-piled into weird shapes as NYC's *Prairie State Express* buzzes onto the long trestle across Sandusky Bay. . . . Spanish moss and 18th century balconied houses beside the *Sunset Limited* west of New Orleans, and the first incredible view of the Crescent City itself, golden in the afternoon sun, as the *Sunset* crosses the heights of the Huey Long Bridge.

And history rides the rails, side by side with Loewy-modern creations from the shops of Pullman-Standard, A.C.F. and Budd. . . . The C&O Canal that George Washington surveyed, now still and vegetating in the shadow of the B&O's Potomac River embankments. . . . The Abraham Lincoln country around the Alton north of Springfield. . . . The little markers



along the NC&StL recalling the *General* and *Texas* of Civil War fame. . . . The gold rush country of the '49'ers and tragic Donner Lake, viewed from the heights of SP's scenic line over the Sierras. . . . The route of Lewis & Clark, almost as wild now as when these explorers made their 4000-mile journey to the coast nearly 150 years ago, but vastly more comfortable in Northern Pacific or Milwaukee air-conditioned cars.

Yes, only memories are needed to make me restless to board the nearest train — memories and the dreams of yet unexplored thousands of rail miles. . . . Southern's Saluda grade outside Asheville. . . . The car ferry across the fabulous tides of Bay of Fundy to ride the Dominion Atlantic. . . . The Mopac through sleeper to eternal spring (so the Chamber of Commerce tells me) in Mexico City. . . . Even during as long a lifetime as the insurance company wishes me, there'll always be new railroad routes to see, new trains to ride . . . and memories of many past rides I'd like to take again and again.



Operation streamliner

Sign the book and go right out to the train. You're going to be the fireman on the City of Los Angeles

BY WALTER H. THRALL JR.

IT'S the kind of warm, bright March afternoon that only southern California can boast in the winter. You're on your way to report for work as the fireman on the Union Pacific's *City of Los Angeles* from its namesake city to Las Vegas, Nev. You hold your grip in front of you and try to keep your clean cap and coveralls from brushing against the sides of the big red Pacific Electric baggage cars loading and unloading express at the huge Los Angeles Union Passenger Terminal.

Frank J. Peterson.

Conductor H. C. Brown, Engineer Van Santongue (center) and the author compare their standard watches at Los Angeles Union Passenger Terminal beside the engine of Union Pacific's streamlined City of Los Angeles. The three will take the streamliner to Las Vegas, Nev., 336 miles.

You see that already passengers are walking through the gate marked *Union Pacific Train No. 104—Streamliner City of Los Angeles.* You wave to the assistant stationmaster and hurry out through the gardenlike patio, past the baggage platform and into the door by the ramp. A left turn brings you into the UP enginemen's locker room.

"Hi, Van." You put your grip down on a bench and greet your engineer, Van Santongue, a likable cuss and a swell guy to work with. Van has his Ball watch out, comparing it with the standard clock on the wall. You pull out your Hamilton to compare it with his watch and the clock. You're six seconds fast, not enough off to have to reset it.

You register out in the large book on the table, writing down the engine and train number, direction bound, names of the engineer and fireman, the hours of rest you've had, the time you were called on duty and the time you were ordered to report, and finally, the time you compared your watch.

Then you open the big books on the

All photos, unless otherwise credited, by the author.

This is the diesel that you are firing to Las Vegas, but here it is on the westbound City of Los Angeles at Devore in Cajon Pass, passing a westbound UP freight. The engine number in the slots conforms to Santa Fe practice, not UP.

table by the wall and read the new bulletins issued by the superintendent. One of the books contains the Santa Fe superintendent's bulletins, and you read them too, because the UP has trackage rights over the Santa Fe from Riverside Junction to Daggett.

You're on duty at 4:30 p.m., and it's about that time when Van finishes reading the bulletins and the two of you pick up your grips and walk up the steps and out to the tracks. You keep a sharp lookout for the Southern Pacific Baldwin diesels switching head-end equipment in and out of the shed, and at the same time you try to avoid the tractors that whiz past you from every direction towing baggage wagons.

Over on track 10 three spotless chrome-yellow EMD E-7's are purring on the head end of your 12-car streamliner, and you note with satisfaction that No. 998 is on the point. You look back along the train of 12 streamlined yellow cars where in the hustle and bustle everyone seems to be in a gay mood as he boards the train. You notice the baggagemen laughing and joking as they transfer the baggage from trucks to the baggage car behind the diesel.

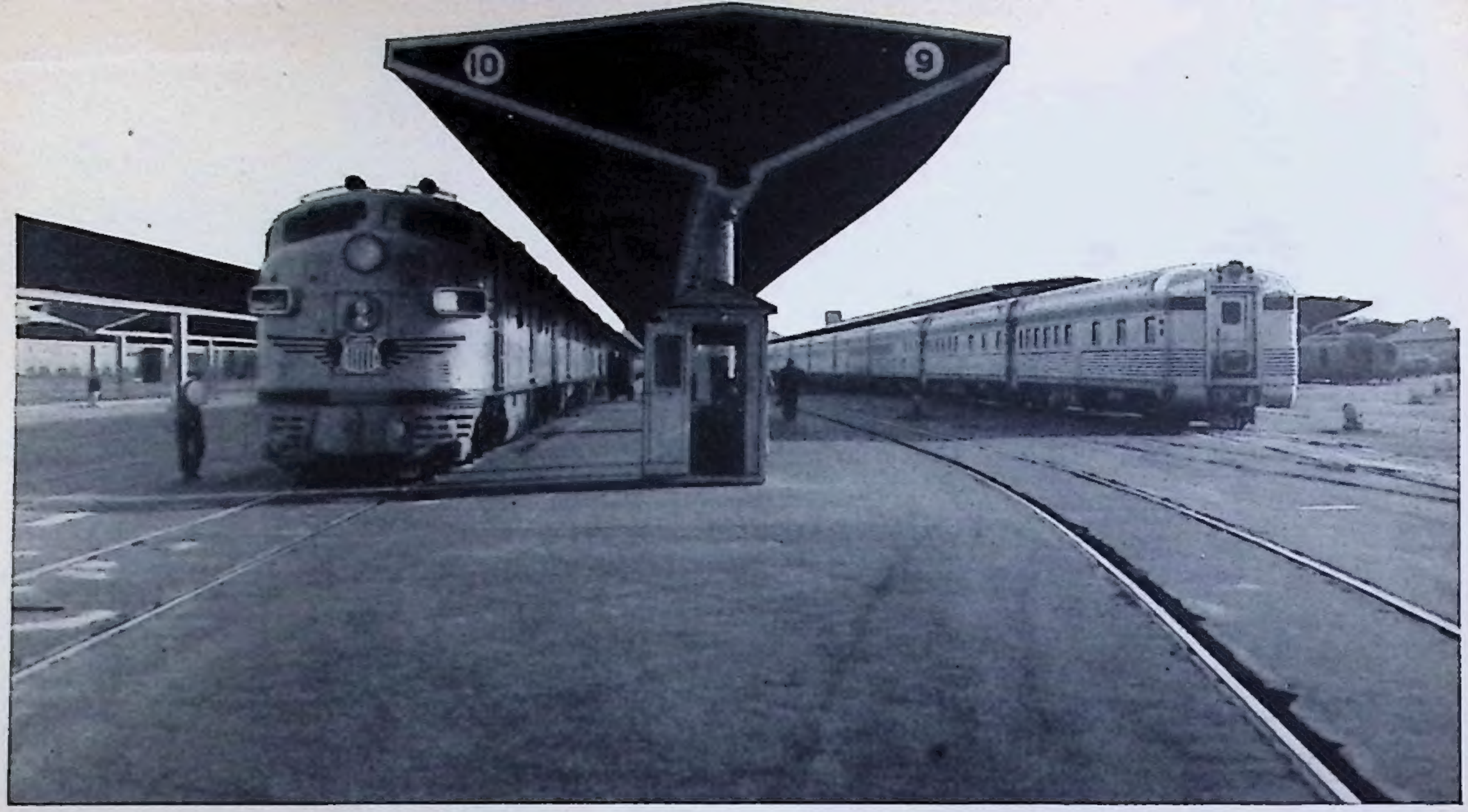
You climb into the cab first and Van hands the grips up to you. "You want the hand-oiler, Van?" you kid him. You remember how not so long ago the first thing you did was to wipe off the hand-oiler and hand it down to your hoghead so he could oil around the steam engine.

Now you watch while Van makes the first of three air tests, this one on the automatic air brakes. He moves the brake valve to service position and makes a 15-pound reduction. Then he checks to see that the leakage does not exceed five pounds a minute. While he's doing this the car toads (inspectors) are checking the brakes on the cars, and you go down in the nose of the unit to put up your indicator numbers.

From a large bundle of metal number plates you select two sets of *104* for the train number and slide them into place in the illuminated slots in the nose. Then you pick out two sets of *998* and put them in a handy place so that you can exchange the train numbers for engine numbers at Riverside Junction to conform to the Santa Fe practice of using engine numbers only. Then you make sure the classification lights are extinguished, for this is a regular train with no following sections. You call to Van to turn on both headlights, and you check to see that they are working and that the Mars light is oscillating in both the red and white positions. Everything's O.K., so you duck under the heavy beams in the nose and climb back into the cab.

The shrill communicating whistle sounds four times and Van pushes the brake valve back to running position, restoring the pressure in the brake pipe to 110 pounds and releasing the brakes on the entire train. The whistle signals for another test, and Van moves a lever on the brake pedestal from "AU" to "SA," cutting in the electro-pneumatic brake. There isn't a sound of air escaping when he makes a 30-pound reduction.

The car toads once again are checking the brakes, so you inspect your flagging equipment, which must consist of a red flag, six red fusees, 10



Union Pacific No. 104, the City of Los Angeles, is about ready to make its daily evening departure from Los Angeles Union Station, track 10. Over on track 8 is the Southern Pacific's new Budd-built Sunset Limited, just in from New Orleans. No. 104 is pulled by three EMD diesel units.

torpedoes, a red lantern and a white lantern. You also make sure that you have two white and two green classification flags and that the seal on the large first-aid kit is not broken. You find everything in good shape as the communication whistle signals Van to release the brakes. A few minutes later the car toad yells up to the cab, "Blue flag's off — 12 cars all okay." (When a blue flag is hanging on a locomotive or a car it means that it cannot be coupled into or moved, since men are working under or on it.)

"Now let's see if this darn pedal works," Van says acidly. He takes his foot off the dead-man pedal and releases the independent (locomotive) brake. Instantly the cab is filled with the sounds of air exhausting and a whistle blowing. A red light on the instrument panel goes on, indicating that the emergency red Mars headlight is flashing.

Van shoves the brake handle around, and you note that a 20-pound brake application was made when Van took his foot off the pedal — the dead-man control works, all right! You reach down and pull a small switch and the red light goes out, indicating that the Mars light is back on the white side.

You grab a rag and start back through the hot, noisy engine rooms to check your diesels. First you check the lubricating oil in the two giant 12-cylinder diesel engines that make the power in the 998. Then you check the oil level in the governors, the engine-water level, the fuel and boiler water gauges. You take a look at the steam generator — it shows 150 pounds of steam pressure — and the air valves on the automatic cooling shutters.

You go through the same procedure in the second unit, and nearly bump into the maintainer, who is checking some electrical contactors. He'll ride as far as Ogden. There's too much noise to hear even yourself talk, so you edge your way back through the narrow passageway into the third unit and repeat your inspections.

You climb down the ladder of the third unit and find Conductor H. C. Brown writing the unit numbers in his train book as he walks toward the head end with the train orders. You compare your Hamilton with Brown's and Van's. All three timepieces are within 12 seconds of each other.

Brown hands the orders to Van and you read them with your engineer. They consist of a C.T.C. clearance card, Form B, and one order, No. 636, which is addressed to "C&E all eastward trains": "Look out for high winds and sand drifting between Ontario and Mira Loma." Oh, brother! How well you remember those sandstorms in the steam engine days and how rough they could be!

It's getting close to departure time when you sit down in your seat on the left side of the cab. What a contrast this cab is to the cab of an 800-class steam engine! Instead of some 50 valves and other controls you have an emergency brake valve protected by a red shield on your left, and an alarm panel in front of you. If something should go wrong back in the units a bell would ring and one of the lights on the panel would come on, pin-pointing the trouble.

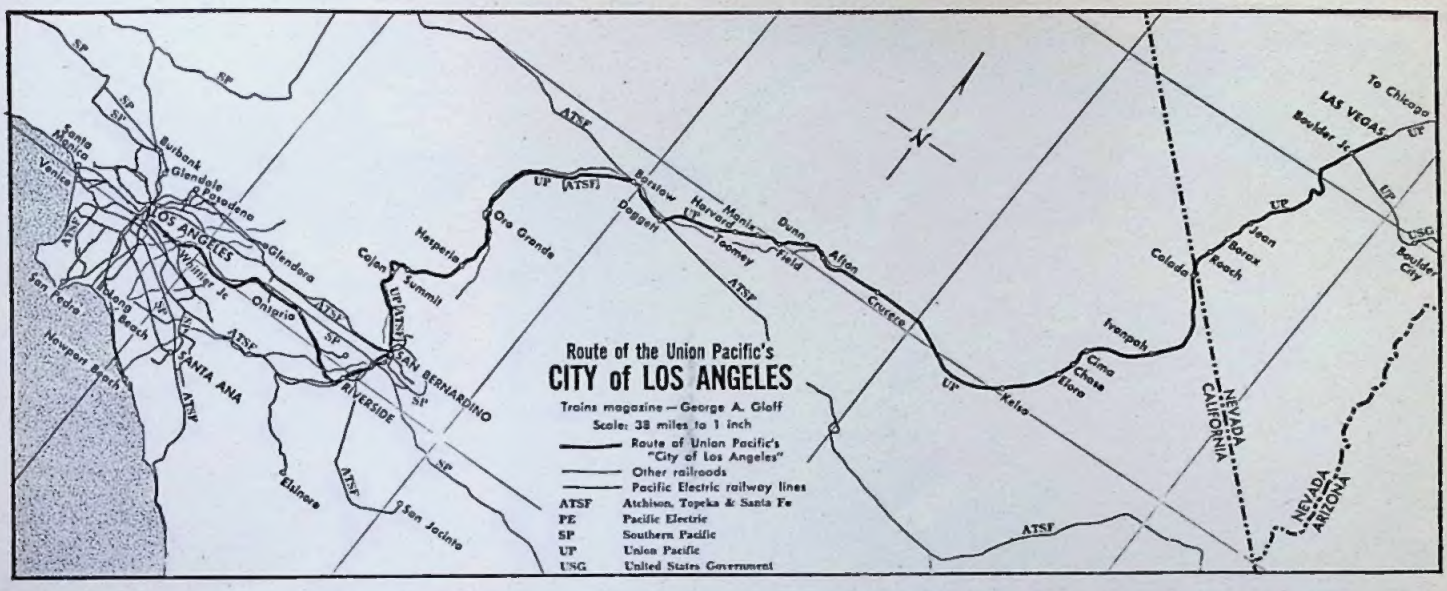
Below the alarm panel is the train-heat control panel with three black buttons, with which you can tend your boilers from your seat, for you are not allowed out of the cab while the train is moving. To the right of the alarm panel is a steam-heat gauge.

And look at the hoghead's side of the cab compared to his station on an 800! Instead of the huge throttle suspended from the roof he has a small lever with eight positions. He has the usual two air-brake valves, plus the reverser lever, the bell and sander valves, and a long row of buttons which actuate everything from the two headlights to the inner electrical workings of the engines.

To his left, facing him, is the large recorder-type speedometer (the tattletale, you call it.) Outside each cab window is a large vertical rear-view mirror which enables you to see the entire train, especially when you're going around a curve.

You see Brownie's signal in your mirror and you sing out "Highball!" The communicating whistle sounds twice as Van turns on the engine bell.

"Clear pot!" he calls, and you answer in acknowledgment as he releases the engine brakes and moves the throttle back a notch at a time.



You watch the red dwarf signals change to yellow and then to green in the interlocking plant ahead, and you are aware of movement in spite of the loud bell and the rising tempo of the diesel engines. No. 104 twists slowly through crossovers and thumps over switches as she makes for the Union Pacific's main line out of the Los Angeles Union Station. At Mission Tower, Southern Pacific No. 4405, a big, black 4-8-4, rumbles noisily past you on track 5. You wave back to her fireman, and you can't help noticing that he looks just like you used to when you fired UP's 800's — hot and dirty!

"Red over yellow on the bridge!" you sing out as No. 998 swings south of the tower, rumble-thumps over the Santa Fe's main line, and crosses the nearly dry, concrete-lined Los Angeles River. Below the home signal targets is a reflector-type sign: "Begin C.T.C." The red-over-yellow aspects of the signal indicates that the C.T.C. dispatcher is crossing you over to track No. 1 here instead of at Downey Road or East Yard. This will save some time, for the double track ends at Montebello.

Santongue has his hand on the electric brake valve, ready to make an application to reduce speed on a curve outside of Los Angeles. This is the cab of the City of Los Angeles on a different day; the diesel is the 985, which has a slightly different arrangement of its controls.

The Union Pacific's double-track main line swings past the SP coach yard and follows the river for several miles. You watch in your mirror as your train takes a restricted curve beneath the First Street bridge onto a long segment of straight track. As the observation car comes around the curve you sing out "Straight track!" and Van peels the throttle back to the eighth position. The engines roar and you are away—hell-bent for election!

You answer Van's "Clear block" as each green signal flashes into view. You wave to several SP diesel switch engines that are pulling long cuts of cars past on track No. 2; they're probably transfer jobs from the Pacific Electric or Los Angeles Junction Railway going to Taylor Yard, Southern Pacific's big freight terminal.

You see the tracks spread out to form East Yard as No. 104 speeds over the Downey Road viaduct. A yellow EMD switcher comes out of a far track with a long string of Pullmans and coaches. "There goes 38's equipment to the depot already," Van comments as he waves to the switcher's crew. No. 38 is the eastbound *Pony Express*.

Van sounds a long blast on the 998's horn and ahead you see the East Los Angeles suburban station. You feel the brakes take hold as No. 104 thrashes over the switches; you hear the brief hollow roar as she passes over the steel viaduct. Then with her bell

First stop out of Los Angeles is the station at suburban East Los Angeles. This is the way it looks to you from the fireman's seat in the cab of the diesel. You're running in C.T.C. territory, and the dispatcher has you on the left-hand track. The double track ends at Montebello.

chanting the streamliner glides past the upturned faces on the station platform, past the baggage wagons, on one of which rests a casket. The pattern of noises ceases as the silent electric brake brings the *City of Los Angeles* to a gentle stop.

You stand in the cab doorway and watch two boys photograph your diesel. You look back and see the casket being loaded in the baggage car; farther back friends are waving goodby to those who have boarded the train. You reflect on the joy and sorrow aboard the streamliner tonight, and then you recall the steam-engine days when there was always a crowd up around the locomotive to watch it and listen to its many sounds. And when the big 3900-class articulateds were on the passenger trains there was always a *big* crowd. But today is typical — two small boys. Many times there is no audience at all now that most steam power is gone.

"Highball!" Again Van pulls his throttle back to the last notch and the 998 is rapidly increasing her stride as you flash over the many road crossings. The horn demands and gets the right of way from subservient motorists. You're moving faster and faster, through Montebello, across the Rio Hondo trestle, around the curve into Pico. You exalt to the feeling of greased-lightning speed. Again there's the roar of steel on steel as you cross the San Gabriel River bridge and thunder over the switches at Whittier Junction, where the UP's Anaheim Branch swings off sharply to the right. Now No. 104 is out in the country, skirting the green hills and bisecting the fields of southern California.

"Seventy!" you holler as you pass a yellow speed board marked *70-60-50.* "Seventy!" answers Van as he makes a light brake application approaching a curve at Clayton. The top figure on the board is the maximum permissible speed for streamliners, the middle figure is for conventional passenger trains, and the bottom figure is for freight trains. You smile as you notice Van return the wave of a group of kids wading in the creek near Hillgrove in the true fashion of friendly railroaders.

You grin and call out, "Clear order board!" For no longer is there an order board at Hillgrove, or at any other office, for that matter. No longer do you get the friendly "highballs" from the operators along the line. Instead the stations seem deserted and you miss the lights in them at night. Even the water plug at Hillgrove adds to the solitude of the place. Yes, C.T.C. and diesels now are in command on the California Division.

"Look out, you so and so!" Van yells, and hauls on the whistle cord. You grip your armrests harder as you watch a car approaching the crossing ahead as if trying to beat you to it. But the driver apparently loses his nerve at the last minute, and you relax as he stops to let you flash past. Even the latest-type signals at road crossings don't deter some drivers, and you think of the times when it's been a photo finish — and the driver lost.

No. 104 is rolling through many orange and walnut groves and farms and fields, and you notice that the "night local" has spotted a lot of Pacific Fruit Express reefers along the line, for this is the season when the navel oranges are moving east. Above the orange groves majestic Mount Baldy, mantled in fresh white snow, seems to remain in the same place despite the consistent 70-mile-an-hour pace that the speedometer shows.

Van slows down briefly to 40 as you pass through the Ontario yard limits. You rumble across the SP's branch, and then it's full speed ahead as No. 104 passes the world's largest vineyards. You're really flying low now, as Van often says.

You notice that the wind is blowing hard through the huge eucalyptus trees that parallel the right of way, and ahead you see it — a huge brown cloud of dust blotting out everything. Van applies the air and mutters, "There's our Santa Ana!" (A Santa Ana is a big windstorm to all southern Californians.) You see that the sand is up to the top of the rail in some places, and you feel sorry for the section men, their heads wrapped up so that their eyes barely show, as they stand back from the track. Almost as quickly as you entered the storm you pass Mira Loma and emerge from it. Once again all is calm and serene and you see in your rear-view mirror that the sun is setting.

"Man in the hole!" you holler to Van. "Looks like the hogs and bulls." A yellow four-unit EMD diesel is in the siding at Bly with a long string of stock cars, most of which are yellow and have roller bearings. A brakeman highballs you from the rear of his yellow caboose. That's the *DLS* — UP's fast livestock train from Salt Lake City, the hottest train on the railroad, next to the streamliners.

You swing around a right-hand curve and onto the graceful Santa Ana River bridge, built when the old San Pedro, Los Angeles & Salt Lake was built in 1901. The cement for its many arches reportedly was imported from Germany. Today it carries the huge diesels and heavy articulateds as well as it did the tiny engines of the old Salt Lake Route.

Your streamliner rounds another curve and flashes past a long drag in the siding at Streeter. Then you rumble over the Pacific Electric at Magnolia Interlocking with the throttle partly closed. Van opens the 998 up

again as you stream through deep, rockbound Pachappa Cut and out onto a high fill. Then you're slowing for Riverside's yard limits.

"Stop sign at the depot!" you call, and Van answers the agent's flag with two short blasts on the horn. Some of the travelers waiting to board at Riverside are carrying skis, you notice, as the 998 slides past them. Bound for Sun Valley, no doubt.

As you leave Riverside you go down in the nose, take down the train numbers and put up the engine numbers. Riverside Junction tower is ahead. "Clear interlocker—red order board!" Van calls. You lean out of the cab door and scoop up the orders from the fork held by the operator. Now you're on Santa Fe rails, and it's double track all the way to Daggett, where you'll pick up UP track again.

It's pretty dark as No. 104 swings around the curve and into sight of Colton Tower. No. 998's Mars headlight is making figure-8's in the dark sky. A westbound train approaches, dims its headlight as Van dims the 998's, and Santa Fe No. 7, the *Fast Mail-Express* slams past behind a diesel. San Bernardino is the next stop, the last one until Las Vegas. You look at your timecard and see that on the UP's California Division it's 336 miles from Los Angeles to Las Vegas, and that No. 104 travels 268 miles from San Bernardino to Las Vegas nonstop! And that includes going over two steep mountain grades and miles of desert. Actually, there's hardly a stretch of level track on the entire division!

Your Hamilton shows 6:35 p.m. as No. 104 pulls out of San Bernardino station — two minutes off the advertised. Van extinguishes the Mars light after you cross the last of the many highway crossings, and now all of the 998's 6000 horses are straining at their bits as they work their way up the Cajon Pass grade of nearly 3 per cent at a steady 33 miles an hour with no helper. You pass a constant stream of Santa Fe and UP freight trains and light helper engines descending the hill. It makes you feel good to see those UP steam helpers back on the mountain again in place of the diesel helpers. And most of the men seem happy to have them back — both the men who run them and the men getting helped, for they do a better job of helping the long trains over the Pass.

You see two of UP's beautiful big 5090-class 4-10-2's behind a yellow caboose in Keenbrook siding, and about 90 cars ahead you pass a four-unit Alco-GE diesel on the point, eager to follow No. 104 up the Hill. Remember when the 5090's were three-cylindered engines and were numbered in the 8800's? And how you used to love to fire them because of their tricky, rhythmic exhaust as they barked at you through the many cuts in the Pass? Those were the good old days when steam was still supreme!

"Clear order board!" you sing out as No. 104 comes into sight of Cajon station. You wave to the operator, an attractive young woman, as Van eases his throttle back to the seventh position for the 30-mile-an-hour curve just ahead. The eastbound main swings away sharply to the left, for between Cajon and Summit the westbound main is steeper, having been built first. You watch the headlight pick out the jagged rocks as No. 104 swings around Cajon's horseshoe curve.

You watch the ever-rising track in the headlight as No. 104 snakes around the sharp curves, conquering the grade with power to spare. The 998's ammeter shows an output of 800 amperes to the singing traction motors.

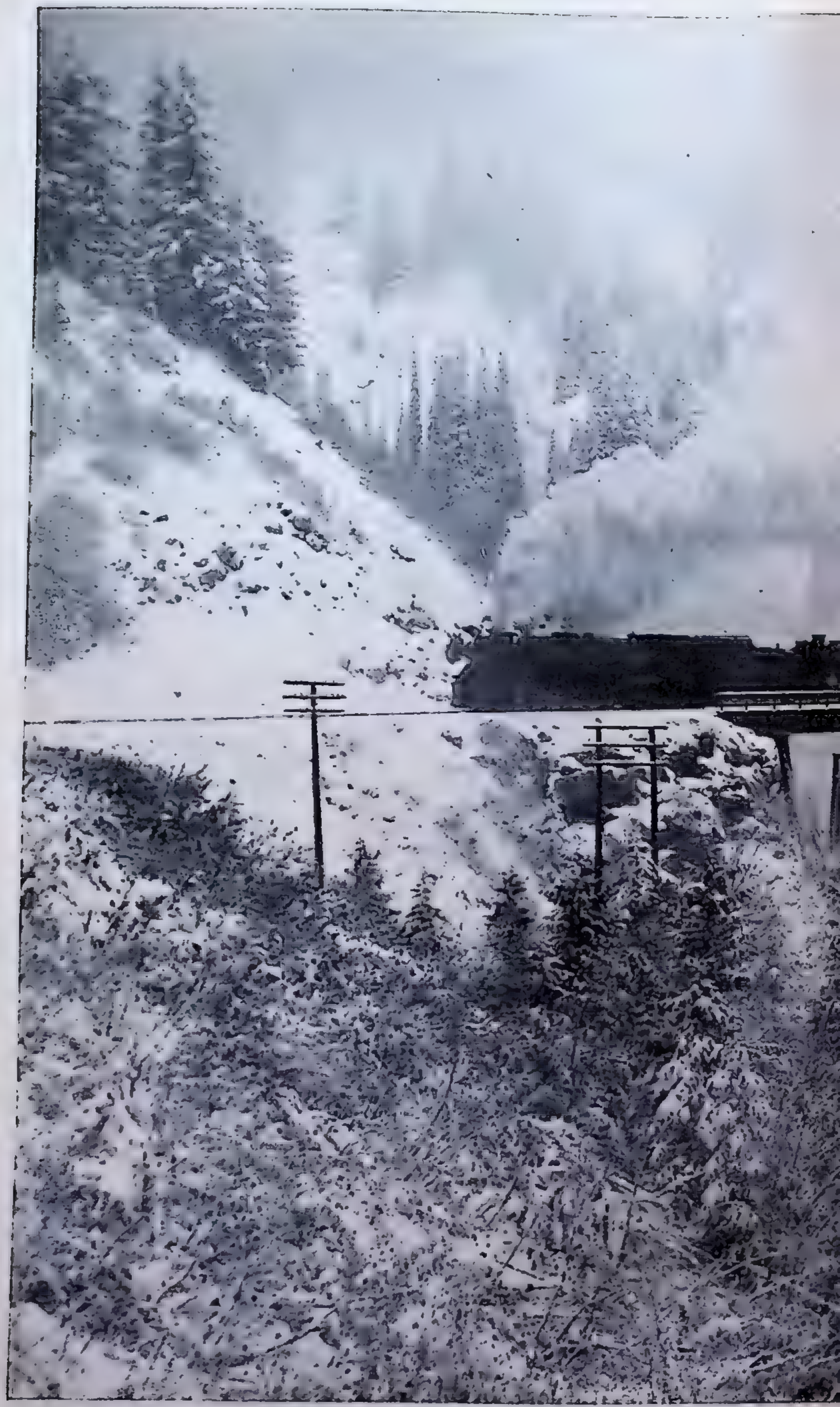
You pass through the two short tunnels and are suddenly aware of four pin-points of light ahead — the eerie eyes of two deer, blinded by your headlight and rooted to the track in terror. Van quickly douses the headlight and blasts away on the horn. In the pale moonlight you barely make out the deer as they escape in graceful leaps.

Now you're nearing Summit. You watch the headlight of a westbound diesel freight as it descends the steep grade far down to your right. You can tell its length in the darkness only by the sparks from its brake shoes: The caboose markers apparently are in a cut. The flanges of your train scream on a sharp curve and you see the lights of the Summit office — the green light of the order board and two yellow markers on a caboose in the eastbound passing track. You return the operator's highball and look at your watch. You just made your running time, but are still two minutes late.

Van makes a running air test, which the flagman acknowledges on the communicating signal, and No. 104 begins to drop away from the 4000-foot altitude of Summit around long graceful curves. You race along the long segment of 90-mile-an-hour track through Hesperia, then twist around more curves until you see the bridge carrying the westbound main over the eastbound. You watch a 5090-class engine obviously fighting the grade with a heavy train on the westbound track as you duck under the bridge, and then you notice two big 5000-class 2-10-2's shoving for all they're worth behind the caboose. "The Oro Grande Turn has sure got a load tonight!" Van comments.

The lights of Victorville flash past, you slow briefly for the Mojave River, and then the demand is for speed and more speed on the fast track to Barstow. The speedometer hand creeps past 90, sometimes reaching 96—97—98! Not until you holler "Two yellow!" approaching Barstow does the train's pace slacken. Then West Yard

Fireman Thrall measures the lubricating oil in one of the two 12-cylinder, 1000-horsepower engines that make the power for each of No. 104's three units. The large cover is for filling the lube oil tank; the four small holes are glass ports over oil filters. The engine is at right.



THE ROYAL TRAIN

When Britain's Princess Elizabeth and her husband, the Duke of Edinburgh, visited Canada and the United States in the fall of 1951, they naturally used the railroads for much of their traveling. Here their Royal Train thunders across Canadian Pacific's Stoney Creek Bridge in the Selkirk Mountains of British Columbia. Both the Princess and the Duke took their turn at the throttle on their Canadian runs.

S. Botsko.

A Lehigh Valley road diesel and a pair of new road-switchers pass through Shenandoah, Pa., on their way to Mt. Carmel, down in the LV's coal country. Diesels handle all this line's engine assignments.

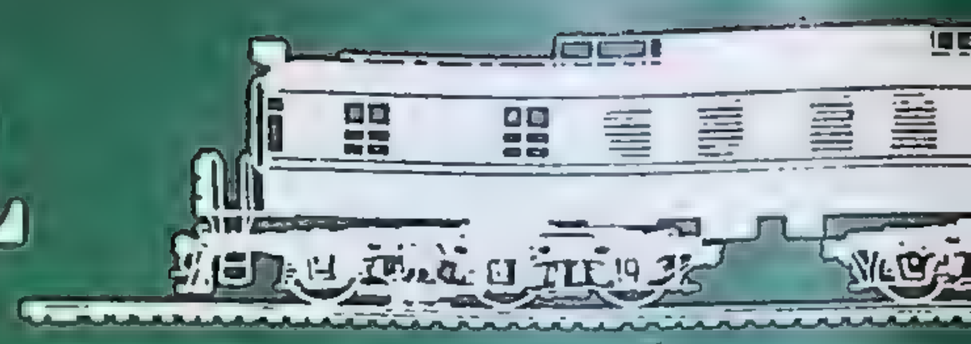
C. W. Witbeck.

↗In 1934 the height of luxury passenger travel on the Louisiana & Arkansas was the New Orleans-Shreveport Hustler, which featured a "buffet-lounge-sunroom sleeper, all-steel coaches and an oil-burning locomotive." In a nostalgic pose of depression times, it hustles through Bossier City, La., behind Ten-Wheeler No. 394, which carries a Hustler nameplate on its smokebox and is equipped with oversize driver tires.

↓An eastbound Missouri Pacific hotshot follows the gentle bends of the Missouri River on the road's low-grade river line between Kansas City and Jefferson City, Mo. No. 206 is an odd customer on the Mopac's expanding diesel roster, a three-unit, 4500-horsepower Baldwin. This type of unit, shown wheeling tonnage near Sandy Hook, Mo., has been replaced in the Baldwin catalog by the 1600-horsepower shark-nose unit.

Rail Photo Service: C. T. Wood.

MIDNIGHT LOCAL



You can get a completely different look at a railroad when you're on its last train before dawn

BY LINN H. WESTCOTT

I HAD spent such an enjoyable evening with George and Caroline Allen at their home in White Plains, a beautiful suburb some 25 miles north of Manhattan, that I'd forgotten to look at my commuters' timetable until sometime after 10:30. I knew that there were many trains listed, and it didn't occur to me that I'd have any trouble getting back to New York City.

I had plucked my New York Central timetable from a rack beside the information booth on the lower level of Grand Central Station on my way to White Plains. There must have been more than 30 different timetables there in their pigeonholes, one for each of the stations in the Central's commuter area. They are made small enough to fit easily into a wallet or shirt pocket. The station name is on the front in white against a dark blue background. Mine read, in about a third of the cover:

OFFICIAL TIME TABLE
WHITE PLAINS
AND NEW YORK
Effective June 1, 1951
DAYLIGHT SAVING TIME SHOWN

The rest of the cover and most of the eight pages are filled with little advertisements for such White Plains businesses as Chauncey B. Griffen, "Westchester's Realtor," the Hotel Senator, Tommy Chen's Chinese Restaurant, Le Gai Pinguin French Restaurant, Minit-Man Car Wash, and The Pedigree Shop. I rather imagine the poor fellow who has to sell some 24 ads in each of the 30 timetables is as flat-footed as Dick Tracy.

The running time for a local to White Plains varies, but is around an hour. An express can do it in less than 40 minutes. Forty-eight trains make the run on weekdays, and that's why I thought there'd be a train or two bound for New York after midnight. But there wasn't. The last train left North White Plains at 11:30.

The Allens drove me to the station. We passed under the tracks through an old narrow, stone-lined viaduct.

"Which track will the train leave from?" Mrs. Allen asked George.

"I think track 2," he replied. He added that many of the morning trains left from track 5, which ordinarily would be the northbound track.

A small sign saying "Track 2" pointed up some wooden steps. Three persons were waiting under the dim light in the shelter at the top of the stairway. The train was due in four minutes.

There were four tracks in the station, but only the outside tracks had platforms. And there wasn't any "track 1" at all. North White Plains is the changeover point from steam to electric locomotives for trains from Brewster. But most trains originate here as strings of electric multiple-unit coaches that, except for having the reputation of running a little more slowly, do quite well without an engine. I could just make out some of the cars standing in the dark yard. A few were new, with wide windows and modern interiors; others were ordinary, and had probably been in service for 30 years or more.

While we waited, a small boy asked his mother, "Mommy, where does the train come from?"

"From around the curve." She nodded toward the curve where the main line disappeared beyond the coach yard. It was easy to see by her manner that it had never really occurred to her that there must be other stations up the line. That's probably the way the railroad looks to most suburbanites. The commuter knows the times of the trains that suit his needs, he gets to the station as close to departure time as he can and be assured of getting a seat, he reads the paper on the way in, and he buys a new ticket every few weeks. And his knowledge of the railroad probably ends with his ability to tell you all the annoying features he has found.

Once in a while, though, commuters take a more avid interest in their railroad, as many of them did two years ago when the Central tried loudspeaker advertising in Grand Central. It annoyed Editor Harold Ross of the *New Yorker* greatly. Immediately his *New Yorker* became the whip-in-hand, and its vehement editorials soon helped force a monotonous, shuffling quietness back on the great spaces of the terminal.

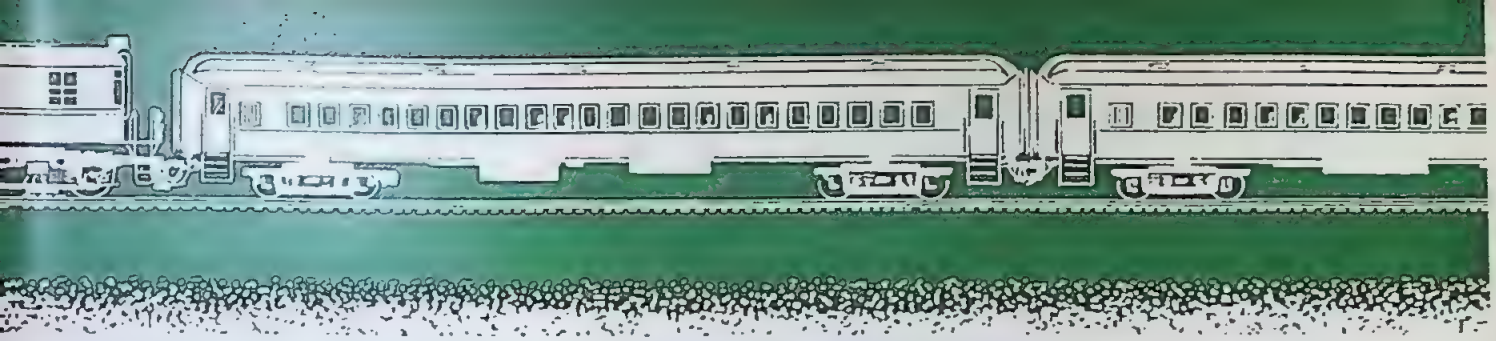
MY train crept around the curve even more noiselessly. A sickly yellow headlight on the steam locomotive was the only warning. The first two coaches were dark; the other two had a handful of passengers seated here and there beside the windows. The ghostly effect of the train floating into the station was a little like the fog scenes of a Hollywood thriller.

I said good-by to the Allens and sat in one of the green plush seats near the rear of the last car. The seats were of the same pattern I remember studying on my first train ride in 1920. It was on the Santa Fe from Los Angeles to San Diego. My father had died and I was being sent to stay with friends for a while. I think of that trip almost every time I see a railroad coach with those classic armrests.

A group of trainmen got on and sat behind me in the last seats of the car. Since there are more outbound than inbound trains in the evening, several crews had gathered to wait for a ride back to New York. We felt the easy jolt as the electric engine coupled to the cars, then we waited. It seemed like five minutes. The conductor went to the rear platform.

"Why don't we go?" he asked the brakeman.

"He hasn't tried the brakes yet," the brakeman answered, referring to the engineer. He pulled the com-



municating cord four times. We could hear the brake beams tighten. Two more pulls; the brakes released. The train started smoothly.

"I don't know what's the matter with that guy. Who *is* the engineer on that engine?" The conductor didn't swear, but the tone of his voice sounded as if he'd like to.

"Take it easy. Maybe he didn't have no air. Maybe he had to pump up." It was an engineman, deadheading home, speaking from across the aisle.

"Sure, that's possible," the conductor conceded, though he still sounded somewhat put out. He walked forward to collect tickets.

My ticket was good from White Plains to New York, but I had boarded the train at North White Plains. The conductor asked me for 16 cents. "Minimum charge," he explained, noticing my surprise at the amount for such a short distance. The receipt he handed me looked like a streetcar transfer.

The train made every stop: Scarsdale, where the Allens told me the average income before taxes is $8000; Tuckahoe; Bronxville; Mt. Vernon. The last station before crossing the Harlem River to Manhattan is in The Bronx. For much of the way there were only two tracks, but later on there was a pair of center tracks to favor the express trains during rush hours.

The mood of the car was very drowsy, in keeping with the lighting. Most of the score of riders slept. Most were men — one a sailor — but there were three couples and a middle-aged housekeeper scattered about the emptiness.

Gray smoke curled past the green cards saying

SMOKING
PERMITTED IN THIS
CAR

The cards in the car ahead were yellow; they prohibited smoking. Cool, sweet-scented spring air billowed in an open window and mixed with the tobacco fumes.

Most of the men in the car were without hats; some were in shirtsleeves. A man got on at Scarsdale carrying a red fiber pouch that looked as if it contained legal documents, but most of the riders were "traveling light."

The dismal scene wasn't brightened any by the car's mud-colored walls, gray above the windows and brown below. The ceiling was a smoky cream color. Perhaps these were bright colors some months ago and now were merely well-coated with Lucky Strike and Chesterfield. Rows of glaring lights in vaselike glass shades lined the ceiling near the clerestory windows.

The train wasn't particularly noisy. The wheels made the usual *a-cup a-cup* sound you hear so well when stepping from car to car of almost any train; but then there was a steady, low-pitched rolling sound you don't hear as often. It comes only when a train rolls over very highly polished heavy rail. Maybe you've noticed the difference on either the Central or the Pennsylvania when traveling to the East. As soon as you reach the track where the heavy coal trains run, the grinding and pitching of the Midwest ceases and the rolling, gliding sensation begins. It's like a calm sea after a storm.

As the train stopped at the last of its many stations, near Mott Haven Yard in The Bronx, I could see the fluted sides of a *California Zephyr* sleeper beside us on the next track. Remember "A hog can cross the country without changing cars, but you can't"? Three days from now that car would be at the ferry slip at Oakland, Calif.

I don't think anyone got off the train all the way in to New York. We passed behind the tenements in Harlem and then were engulfed in the blackness of the tunnel which carries the Central under Park Avenue to Grand Central Terminal. We jostled through the slip switches toward the platform of track 23 on the upper level.

Something didn't seem right. It was the lack of the usual "railroad etiquette" in the nocturnal commuters. When the passengers don't crowd toward the car doors, something's wrong. Well, on this last train of the evening no one pushed. In fact, most of the passengers stayed in their seats until the train had stopped. I guess they weren't ordinary New Yorkers, these night-shifters. Besides, who's in a hurry to work at night anyway?

The engine pulled up behind a string of shabby coaches and lifeless baggage cars, making the walk to the gate just that much longer. As I moved out the door and walked along the high-level platform I noticed few other people beside me. Fully a third of the train's passengers were still in their seats, their heads propped against the windows of the silent cars, sound asleep.

A Manhattan-bound train pulls up to the wooden platform of the elevated White Plains station.

Herb Weisberger.

Jim Morley.

SKYKOMISH INTERLUDE

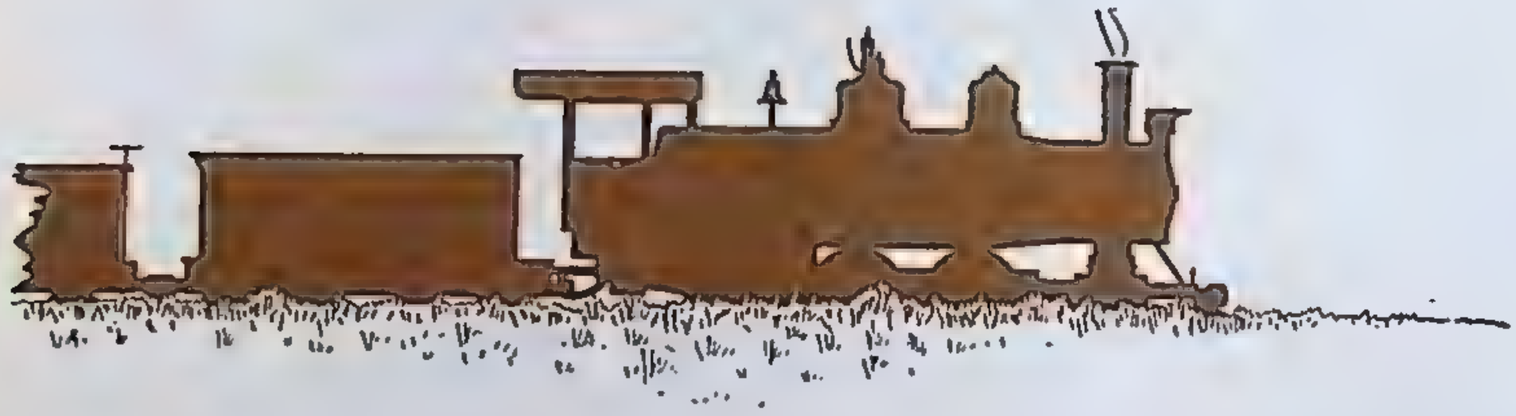
Hazy, forested mountains surround Skykomish, Wash., where the eastbound Cascadian pauses to uncouple its steam locomotive (which here has gone to the service pit), pick up its electric motor for the run up through Cascade Tunnel, and allow the conductor to get a new set of train orders and a clearance card. Now, while the conductor waits at the engine steps, the engineer tests the air brakes on the four-car train. In a moment the Cascadian will hum smoothly, slip away and be gone.

Richard Steinheimer.

Railroading at night is filled with sights and sounds of a romantic, inspiring content unknown in daylight — the sight of a passenger train speeding across the country miles, its windows alight and throwing splotches of brilliance on the fields; the sound of a chime whistle from beyond the ridge; the fleeting glimpse, through a roomette window, of tethered horsepower such as this Southern Pacific class AC-7 cab-forward under the floodlights at Colton, Calif.

4452
4438
443
.89

The engine that walked in its sleep



Mystery surrounds the somnambulistic activities of the Bennettsville & Cheraw's engine No. 31. Maybe, like a milk horse, it needs no human driver

BY MIKE RUNEY

THE Bennettsville & Cheraw Railroad, in almost 50 years of service, has led a quiet, conventional, and well-mannered existence. Through the sleepy South Carolina countryside it serves, the road's little trains have puffed peacefully down the years in a leisurely, unexciting pattern of typical "pumpkin-vine" railroading.

The B&C is a humble and completely unpretentious sort of railroad, even for a short line. Its more tangible assets include two ancient and wheezing locomotives and 24 miles of crooked and rusty track. Some of the rail is 50-pound, the rest even lighter, but somehow it manages to support the infrequent train that runs from Kollocks to Bennettsville and Blenheim. It's not the kind of railroad on which you'd expect to find a mysteriously darkened, runaway engine pounding along through the dusky night. This improbable situation nevertheless occurred not long ago, and it threw the usually placid functioning of the line into complete chaos and confusion.

It was a peaceful Sunday evening in Bennettsville. Down in the B&C's yard, Engine 31, with its fire banked, snoozed peacefully in the gloomy dusk. Two empty coal cars were coupled to its square, old-fashioned tank. The grassy railroad yard and the office were deserted and quiet. The Bennettsville & Cheraw had long since gone to bed, little dreaming of impending trouble. Then quietly, slowly, old 31 stirred itself. Its valve gear squeaked eerily. The softly hissing steam from its open cylinder cocks was ominously stilled. Steam sighed into the cylinders and against the pistons. The drivers creaked on rusty rails, and wraithlike, headlight dark, the old Ten-Wheeler rolled out into the night with no hand on its throttle and no one aboard.

Trailing the two empty hoppers, the 31 chuffed along the lonely, dark track through the outskirts of town, the tempo of its exhaust increasing with every turn of the driving wheels. Providentially, the surreptitious progress of the runaway was observed by an understandably alarmed and incredulous citizen who realized that the nocturnal prowlings of the B&C's engine must certainly be going on without the sanction of the management. He was shaken by his glimpse of what appeared to be an empty cab, and decided that something was definitely amiss. He contacted Master Mechanic L. L. Thomas at once by telephone, and in the best Hollywood tradition the m. m. valiantly raced the train to the grade crossing on Route 15, just out of Bennettsville. He arrived there just as the ghostly engine lurched out of the darkness and puffed across the highway at a brisk and dangerous 25 miles an hour. The master mechanic made a desperate lunge for the engine's grab iron and miraculously was able to climb into the cab. There he found to his amazement that the Johnson bar was all the way forward, the cylinder cocks were closed, and the throttle was opened wide. He ran the recalcitrant train back into the yard, where all hands immediately joined in a guessing game as to the probable cause for No. 31's reckless escapade.

According to A. T. Dampier, superintendent of the road, no clue has so far been unearthed that would throw any light on the strange occurrence. Personally, however, I like to deduce

Mike Runey.

that (*a*) No. 31 just got tired of her humdrum and prosaic existence and decided to go an engineerless spree, or (*b*) an embryo engineer of about 9 years decided to play Casey Jones, but bailed out when No. 31 unexpectedly came to life, or (*c*) that the whole business was perpetrated by a frustrated diesel salesman who was dismayed by the spryness of the Bennettsville & Cheraw's steam engines and nefariously plotted to get them out of the way. Quite probably he planned to sell the B&C a pair of ghastly, purple-striped monstrosities complete with a two-year guarantee and double windshield wipers!

ENGINE 31 is one of two Ten-Wheelers on the roster of the Bennettsville & Cheraw. The other, No. 30, is shown here approaching the same highway crossing where Master Mechanic L. L. Thomas boarded No. 31 on the night of its escapade. Weeds hide the 40- and 50-pound rails of the B&C's 24-mile line serving Bennettsville, Blenheim and Kollocks in South Carolina. The B&C was originally built to haul timber, but now ekes out a precarious existence hauling miscellaneous freight from Seaboard and Atlantic Coast Line connections.

Engine 30 was formerly owned by Elliott Springs' now-dieselized Lancaster & Chester Railway, "The Springmaid Line." The L&C is known as the "Who's Who Road" because its list of 32 vice-presidents and 25 other officials (including an "atomic engineer") includes many prominent names.

Above, James G. LaVake; below, Milton B. Nafus.

←To a modern diesel, a water penstock is as old-fashioned as a sooty black stovepipe on a porcelain gas range. Diesels drink their boiler water through a hose, service-station style. This Atlantic Coast Line passenger engine is being serviced at Jacksonville, Fla., before leaving on a run up the main line to Richmond.

Colorado is both a railfan's dream state and a tourist's paradise. One of its main attractions is the Manitou & Pike's Peak Railway→, a cog road which clambers up the side of the famous mountain for nine miles to Summit. This is the lower terminal at Manitou. Trains run twice daily.

↓The glorious noontimes when a chisel-nosed T-1 would pause at Englewood station with Pennsylvania's Manhattan Limited, then hit its stride on the race track to Fort Wayne, are about over. The Manhattan Limited now draws a diesel, and the 4-4-4-4's are principally relief engines for diesels. Fifty-two T-1's were built.

TIME FREIGHT WM-1

The milepost indicates that it's 171 miles to Baltimore as Western Maryland's time freight WM-1 cants to a wide curve four miles west of Cumberland, Md. WM-1's power is 4-6-6-4 No. 1209. Photo by William B. Price.

Burlington Lines.

Railway post office car of about the time Great Northern took over the mail.

In pursuit of the mail

Great Northern wanted the mail contract, and not even a landslide could hold it back

FOR some years after the Great Northern was completed to the Pacific Coast in 1893, the line devoted itself almost exclusively to building up its freight traffic. Its astute president, Jim Hill, saw little profit to be had from passengers and mail, and was quite content to leave that end of the business to the long-established and popular Northern Pacific. To be sure, Great Northern had a well-appointed through passenger train in daily service — a train named (somewhat extravagantly) the *Great Northern Flyer* — but it was not until 1899 that Jim Hill attempted serious competition with the Northern Pacific.

The occasion for this competition, as I remember, was Northern Pacific's temporary withdrawal of its morning coast train out of St. Paul, together with its eastbound running mate. The

train was replaced a few months later by the new and luxurious *North Coast Limited*, but in the meantime the lack of service broke an important connection at St. Paul and the Post Office Department naturally did not like it. Great Northern announced it would make the desired connection and was given the mail — but before the contract could be awarded the road had to demonstrate that it could make the time with reasonable regularity.

At this time I was a railway postal clerk on a local run out of Spokane. On November 18, 1899, I was notified that I had been transferred to the Havre & Spokane run and was due to take that run eastbound on November 21.

The Havre & Spokane was the third in order of the four railway post office runs on the Great Northern main line between St. Paul and Seattle. It traversed a wild and almost uninhabited region, crossing two mountain ranges and following narrow rock defiles and deep, tortuous river canyons. It was 516 miles in length and the running time was 23 hours eastbound, 21¼ hours westbound.

Early on the morning of the 21st, when I telephoned to inquire about No. 4 (my train), I was told it had been annulled; it was delayed by a slide in the Cascade Mountains some 200 miles away. However, a substitute train was being made up at Spokane and it would leave on time — 8 a.m. Accordingly, I signed for the registers at the post office and rode the mail truck to the depot.

There I found a train with engine attached ready to depart, but no mail car. That had been set out on a side track and I was told it was being held for the mail from No. 4. The mail was being transferred around the slide to a special train which would hustle it to Spokane.

Then ensued a long wait. I busied myself about the car, worked up the mail on hand, and at noon locked up and had dinner at the lunch counter. At 4 p.m. the special, consisting of an engine, box car and caboose, arrived. It had made a phenomenal run. Engineer Jack Croke, with a new Rogers Ten-Wheeler, No. 905, had made the 197-mile run from Leavenworth to Spokane in four hours flat — a run that was talked about for years by enginemen in the roundhouses of the system. The mail was quickly transferred and we pulled out the short distance to Hillyard, where we changed engines and crews.

While the conductor was getting his orders I had a talk with the engineer, a young fellow whose regular job was pulling freights. By the light of a torch he was oiling around a big Brooks Ten-Wheeler. I said I was brand new on the run and would appreciate any help he could give me in finding the mail cranes, as I was somewhat hazy about their locations and, besides, it was going to be dark. He said he would give the usual whistle at the milepost and when he neared the crane he would blow two short toots. That was fine, I thought.

Then the conductor came up. He and the engineer compared watches and read over the orders, and the conductor remarked that he and his crew would like to ride with me in the mail compartment, as there was no heat in the baggage end. I said that would be all right.

The crew climbed aboard, the conductor swung his lamp, and we were off. We were going to make no stops. Our objective was to overtake the substitute No. 4 which was now ambling along on time, eight hours ahead of us on her way to St. Paul.

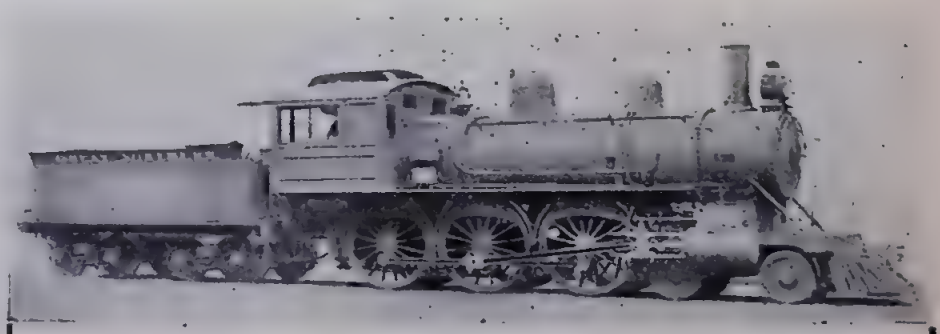
About 10 miles down the line was the first exchange—a post office called Dragoon, long since defunct. When the whistle sounded I opened the door and peered ahead. The oil headlight, with its huge reflector, might seem to anyone facing it to glare most balefully, but it actually cast only a feeble light ahead. I could see nothing, but just then the fireman opened the firebox and the fierce glow lit up a sandy cut and showed the driving wheels spinning with the side rods making a hazy blur about their centers. We were surely moving!

Two short toots! *This must be it*, I thought, and pulled up the hook. *Wham!* It was! Before I could lift my pouch over the high sill and throw it out, we were half a mile down the track.

Near Camden the road made a sharp curve around the rock-walled end of a small lake — a dangerous place where, later, an engineer, fireman and mail clerk were to lose their lives. As we careened around this curve the conductor, obviously scared stiff, jumped from his chair and grabbed for the air cord. A lurch of the train threw him against the wall and centrifugal force froze him there; and before he could recover we had rounded the curve, shot through a tunnel and were on a straight stretch again. As for me, I had too much work ahead to worry about the other things.

We made the 108 miles to Bonner's Ferry in about two hours. Near there we entered the Kootenai Canyon, a nightmare of a place in those days — many miles of sharp curves, tunnels and overhanging rock where disastrous wrecks had occurred. Twice watchmen swung us down. At one point a huge fallen rock stood so close to the rail that the trackmen were preparing to dynamite it. However, investigation showed that we could clear it by inches and we carefully eased by. At last we reached Troy, a division point. We had made the run of 141 miles from Spokane in a little over three hours.

At Troy we changed engines, getting an old-time standard Eight-Wheeler. Our luck also changed. By someone's blunder the tender had been filled with an excessively bad batch of Sand Coulee coal, which promptly gave our engine acute indigestion. With this wretched fuel the



No. 906 is a sister of the 905, the Rogers Ten-Wheeler which "had made a phenomenal run . . . the 197-mile run from Leavenworth to Spokane in four hours flat — a run that was talked about for years." Nos. 905 and 906 were in a batch of 10 locomotives shipped to the Great Northern in the fall of 1899, just in time for 905 to draw the assignment to help catch up with the mail train in the accompanying story. They had 73-inch drivers to give them speed, and 210 pounds steam pressure working on 18 x 26-inch pistons to give them 18,150 pounds tractive force. They were classified as E-3's.

This map, from the Railroad Gazette of October 13, 1893, shows Great Northern's Pacific Extension shortly after it was finished earlier that year. Colored line indicates route traveled by Frank Ginger and his colleagues while overtaking train No. 4 out of Spokane.

fireman couldn't keep her hot. Valiantly he strove with scoop and clinker hook, but steadily the pressure dropped and dropped. Our speed dropped accordingly, until at last we had to stop and start the blower to build up boiler pressure. We repeated this at Libby and when we finally reached Jennings there was a sheaf of messages burning up the crew for the slow progress. The dispatcher was wild. Our special had rights over everything and traffic was being delayed while we were hardly making No. 4's running time.

In those days the road left the Kootenai at Jennings and struck out over the Cabinet Range to Kalispell, 80 miles away. In this distance there was not a single post office. This was a section over which we had been counted upon to make up a lot of time. While it was uphill for nearly 40 miles, the ruling grade was only 1 per cent and with but one car it was expected we would fairly eat it up.

After reaching Jennings the crew dumped the ash pan, raked the slag off the grates and started the blower. When the gauge showed 150 pounds we tackled the long ascending grade. Slowly we toiled up the mountain, stopping at intervals while the harassed enginemen worked on the old locomotive. There was much profanity of high thermal rating, which would have helped her to steam if it could have been applied to her crown sheet and flues.

At last we reached the top and rolled through the long Haskell Pass Tunnel. From there it was downhill to Kalispell. We now needed only enough steam to run the air pump. Down the hill we tore, rocking around the curves at a pace to make one's hair stand. We soon reached Kalispell, but we had barely gained an hour on No. 4 since leaving Troy.

Here there was a delay of 15 or 20 minutes. We were due to change engines but nothing suitable was to be had. All engines at this division terminal were designed for mountain work — grand for pulling but no great shakes for speed. Our old locomotive with her six-foot drivers was still the best bet. They took her to the roundhouse, cleaned her fires, filled her tender with high-grade coal, and greased her thoroughly. When she came back she was a different engine altogether. Her safety valve was popping; she hummed with suppressed energy and seemed eager to show us what she could do, given a fair chance.

From here on we made wonderful time. We roared out of Kalispell at a terrific rate which was hardly slackened until we reached Essex, at the foot of the main climb over the Rockies. We stopped for water and then the valiant old engine chuffed up the stiff grade to the summit at a 30-mile clip.

Thirteen miles down the eastern slope there was a station then called Midvale, and near this place the line crossed Two Medicine Gulch on a structure celebrated as being the highest wooden railroad bridge ever built.* This was a fearsome chasm. From its black depths rose bent upon bent of framed timbers converging from either side to the narrow roadway at the top. The bridge was 10 years old and in bad shape despite constant repairs. Hereabouts the line was under construction on a new location and a steel bridge was in process of erection. Meanwhile the old bridge had to be used. It was highly unsafe when beset by the terrific gales prevalent in this region; the wind would cause it to sway alarmingly and its ancient timbers would emit frightful banshee howls. During bad gales trains were held until the wind subsided.

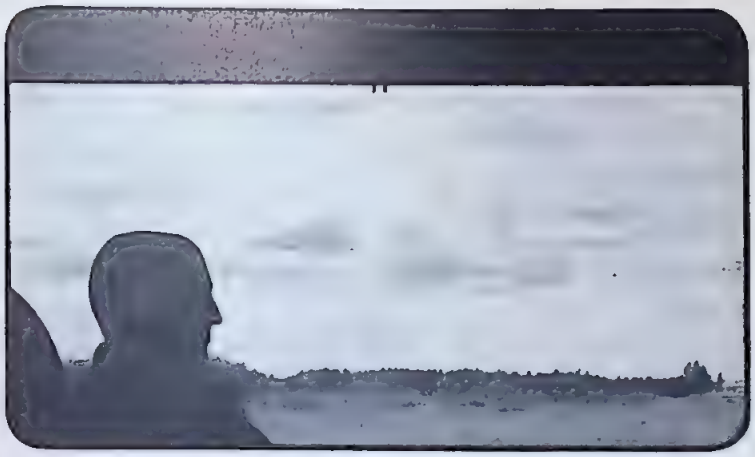
A red board was out for us at Midvale and I followed the conductor into the telegraph office. The operator was busy at his instrument when we entered, but when the sounder stopped its clatter he handed the conductor his orders and said:

"I was just talking with the dispatcher. He wanted to know about the wind at the bridge. I told him there was a full gale down there and the watchman reported she was blowing four feet out of line. He said they were holding No. 4 for you at Blackfoot, but for you and the engineer to use your judgment and not to cross if it seems too risky."

We pulled down to the bridge where the watchman stood swinging his lantern. The wind howled and the bridge creaked and moaned. In the shelter of the watchman's shack they talked things over. Then the conductor climbed aboard, swung his lamp, and we crept out onto the crazy groaning structure. Midway, all hell broke loose as a terrific blast caught us broadside. The car shook and heeled over sickeningly, the transoms and ventilators shrieked, and things reached a climax when a frightened flagman pulled open a door. Instantly our lamps were doused and everything loose in the car took to the air. In pitch darkness, amidst a frightful din, we finished the long crawl across.

We made a swift downhill run to Blackfoot and there was No. 4 waiting. They had held her two hours. The mail car was cut in and the trip to Havre was completed without further incident. We had made up six hours of lost time in our 11-hour run of 361 miles from Spokane to Blackfoot. Considering the nature of the country traversed and the character of the roadbed in those days, it was *some* run.

*"Canyons flanked by vertical walls lead up to high benches and tablelands. High bridges cross deep chasms. Cascades tumble into ravines. One bridge, over Two Medicine Creek, is 214 feet high, with a span of 140 feet." — From a description of Great Northern's Pacific Extension, *Railroad Gazette*, January 6, 1893. A taller wooden structure, 227 feet high and 866 feet long, was built at Marent Gulch on the Northern Pacific in 1883. — *Ed.*



BY DAVID P. MORGAN

My finest train trip

"Unquestionable proof to me that the potential of American railroad passenger service is both unlimited and untapped."

MILWAUKEE, March 15, 1950

Mr. R. E. Barr
Vice-President, Traffic
Illinois Central System
135 E. Eleventh Place,
Chicago 5, Illinois

Great guns, Mr. Barr,

but I have failed to uncover any mileage in my file of railroad travel experience that can even equal my passage on the *Panama Limited* out of New Orleans on January 5, 1950. Illinois Central No. 6 was 921 miles of unquestionable proof to me that the potential of American railroad passenger service is both unlimited and untapped. The *Panama* was the concrete realization of a caliber of performance that I had begun to believe was an impossible illusion, a dream that could only hold sway in the minds of impractical idealists.

But first let me present my credentials lest you believe that I am a one-man advertising agency on the make for an IC account. I am one and the same guy who protested about Iowa Division passenger service on the IC in a letter to you last August. The dome lights were never darkened all night in my *Hawkeye* coach, and pillows cost 25 cents each; on my eastbound trip the station switching on No. 12 at Waterloo, Ia., past the midnight hour could only be defined as rough. I suggested that the lights be off, the pillows free, the switching smooth. In writing that letter, I tried to assume the attitude of an average passenger who, unlike myself, might ride Greyhound or drive his car to Waterloo unless the IC put its house in order.

Just for the record, let me say right here that you neither ignored nor dodged the issue. I was informed that the road was equipping both new and existing coaches with blue aisle-lights. My car was simply one of a minority yet to be so modernized. The quarter pillow rental was simply a service charge to cover costs: a fair if debatable reason. As for the nocturnal yard practices at Waterloo, you would check into that promptly. The letter regretted the cause for my complaint, promised a finer *Hawkeye,* and thanked me for writing.

My *Panama Limited* trip may be nothing more than a routine ride on the all-Pullman overnight streamliner; if so, this second letter will be of no great moment. For all I know your desk is stacked high with fan mail and your phone rings ceaselessly because IC No. 6 has been doing just what comes naturally, I don't know. I just think that the person who can find the paper and postage to fire even friendly criticism is also obliged to report such an example of quality passenger service.

One more point, Mr. Barr, by way of preface. The magazine assignment which took me into New Orleans on that sultry afternoon of January 5 had no connection with the IC. After a week on the road — haunting roundhouses and backshops, talking to traffic solicitors, running down rumors, jotting down fact and figure in my black notebook — I was, in fact, quite happy to look at railroading with no editorial strings attached. If the *Panama* had been tagged for TRAINS, you would have heard from me about net earnings, train personnel, equipment names and like material long before this income tax deadline.

I was familiar with the *Panama Limited* tradition, however — aware that it was to the Mississippi Valley what the *Crescent* was to the Piedmont Plateau and the *Lark* to the coast of California. I liked to think of all these Pullman limiteds as handsome testimony that all of railroading's onetime fine gilt edge had not been swallowed up by coach streamliners and name-the-train contests. Luxury trains, that is, that merited the traffic of the discriminating year in and year out without recourse to bus fares or air line hostesses. I seldom rode these trains, but I liked to think they were drumming along each night with

their old "rights over everything."

I also recalled photographs of the *Panama* when it was powered by decorated 4-8-2's, held to a more leisurely schedule than today, and when IC charged an extra fare that included dinner — the train that Lucius Beebe (in his *Trains in Transition*) said "deserves to be preserved in service as an eloquent souvenir of heartier times and more spacious tastes in comfort." And if memory serves me faithfully, the streamlined *Panama* that followed upon the heels of Beebe's lines was under construction on December 7, 1941, frozen by W.P.B. directive, then released from the shops of Pullman-Standard into service as the last new passenger train until peace.

Interesting incidentals, I suppose, but hardly strong research for an inveterate train rider in for the wonder of his rail mileage. All I asked of Illinois Central, as a paying passenger aboard No. 6, was dinner and breakfast, a night's sleep, and a *Morning Hi* connection next a. m. in Chicago. A *Hawkeye* customer could expect the same.

I CHECKED my topcoat and bag out of a concourse luggage locker the moment a switcher had parked the *Panama's* 14 cars of streamlined orange-yellow-brown in Union Station and the train gate was opened for loading. No. 6's observation - lounge - sleeper was my first tangible hint that the train it trailed was something special; its recessed IC-diamond drumhead, its *Panama Limited* in neon tubing script mounted in shallow boxes on either side of the car, its venetian blinds and simulated window panes, all blended into a design for which I could recall no postwar challenger. In common with its companion equipment ahead, the observation reflected full-fledged streamlining in its skirts and wide rubber diaphragms. Cleanliness of the cars indicated a thorough job earlier in the day at the train washer.

My spring suit, which is notably comfortable on a winter day in Corpus Christi, where I bought it, felt consciously warm in the humidity of a Louisiana January 5 — and car 616 was only three back from the front end. So on I trod past the red caps, car inspectors, diner and lounge to *Prairie State*. I had the last lower on the right to the rear. I gave bag and coat to the porter and stayed on the ground for a Camel. Up ahead they were loading mail and coupling up a 4000-horsepower cab-and-booster Electro-Motive E-7. An EMD shifter shuffled arch roof Espee baggage cars two tracks over.

" 'Board! All aboard!" The first of many calls echoed up the polished panels of the *Panama*. I flipped my smoke away and climbed the steps into the coolness of *Prairie State*. Over across the way the Texas & New Orleans had tied one of its memorable big Baldwin P-9 Pacifics, No. 622, onto a victorious Orange Bowl special being dispatched west to California as Second No. 1. Inside my car, complimentary copies of the New Orleans *States* had been placed on each seat, in each room and compartment.

Prairie State rocked a bit to the curve on which it was standing as two pairs of V-12 GM diesels accelerated from a lazy idle to a businesslike 325 revolutions per minute and kept climbing. Five o'clock on the nose; the *Panama* was on its 921-mile overnight journey from sun to snow. A running brake test punctuated by a couple of air horn blasts, then the IC roundhouse was passing on the left. An Alco-GE passenger diesel with the sunset herald of the Espee on its box nose caught me off guard — new power for the *Sunset* standing in the joint T&NO-Gulf Coast Lines-IC stable. The P-9's had at last been bumped.

A pause to pick up passengers at Carrollton Avenue, then a highball for Hammond. No. 6 held up avenue traffic crossing the boulevard and rails of a Tulane-route street railway line. Minutes later the long classifica-

Elliott Kuhn.

"Two pairs of V-12 GM diesels accelerated from a lazy idle to a businesslike 325 revolutions per minute. . . . The Panama was on its 921-mile sun-to-snow journey."

"A switcher had parked the Panama's 14 cars of streamlined orange-yellow-brown in Union Station and the train gate was opened for loading."

Both photos, James G. LaVake.

"Up ahead they were coupling up a 4000-horsepower cab-and-booster Electro-Motive E-7. . . . ' 'Board! All aboard!' echoed up the polished panels of the Panama."

tion tracks of Mays Yard were sweeping by: the miracle yard rushed to completion in 1944 to blast the freight blockade that threatened the Port of New Orleans during World War II — the yard cited as the best investment the Illinois Central has made during the last 40 years.

Dinner seemed a good investment for me. Almost subconsciously I observed that the *Panama* was riding well (vestibules are a convenient lab) — far better, in fact, than the much-advertised streamliner on which I had left Chicago shortly before Christmas.

A wide window in *Vieux Carré,** the diner, lent a truer expression of the *Panama's* pace. I estimated offhand that we were hitting at least 85 miles an hour, maybe more. Aboard this Illinois Central train splitting the still of the swamps at 85 within 100 miles of New Orleans I discovered an almost perfect duplicate of a Milwaukee Road speedway schedule — little variation in gait, equal riding calm and quiet. It was good track being used to its full advantage by modern equipment and inspired dispatching.

Starting with the filet of wall-eyed pike at $2.60, the menu indexed a delightfully extravagant content of food and drink. It was a rather difficult selection for a traveler adjusting himself to the austere one- and two-entree service of other dining cars which labored under the blanket of economy (a dim way out, perhaps, in view of the once-merited and still-blurbed joy of eating on a train). I settled on the select combination grill ($3.25), resisting the temptation of a shrimp cocktail (only 30 cents extra) for the orange juice test.

Orange juice it was — no canned overtones of taste nor obvious artifice — but real, honest, American, iced orange juice. The ham and chops and vegetables and coffee and dessert that followed were uniformly excellent, served in an atmosphere of cordial hospitality by a waiter who did not mistake long delays between dishes for true sophistication. The car itself, with photo-murals of an ante-bellum South and a tiny end-of-diner windowless nook embracing an embossed Creole mosaic, was a setting I had begun to believe existed only in the *Car Builders' Cyclopedia.*

I assume, Mr. Barr, that *Vieux Carré* is no stranger to the silver-plated rule that all railroad diners lose money. Yet I can conceive of no more profitable manner in which the IC's passenger traffic department can pen red ink on its accounts.

Next door in *General Beauregard,*

*Also the title of a standard weight Pullman buffet-parlor in the Chicago-Louisville afternoon service of the Pennsylvania years ago.

a three double bedroom, one drawing room, one compartment lounge car, I found another *Panama* Pullman of original design. Panoramic prints of Latin American vistas topped a curving wall at the rear while through a mirror-flanked archway lay a perfect miniature of what I guessed to be French Quarter architecture. At any rate, I remember iron chairs with black leather upholstery, a bar worthy of Leadville, wooden shutters crowned by crescent glass, and a cast iron grilled door with flower design opening into the aisle down past the sleeping rooms.

My description may seem inaccurate on a point or two and possibly ornate to you, but I want to record one traveler's impression of *Vieux Carré* and *General Beauregard* while it is still fresh — and also free of the embellishments and exaggeration that might become a measure of memory. The plans of the carbuilders for mass production of a few standardized blueprints find a robust argument in lower cost. but such a program could never produce a *Panama Limited.* And I like to think that No. 6 may create much of its repeat revenue simply because it is different from the run-of-the-mill, pastel-shaded, chrome-lined streamliners that rely almost solely on their names for individuality. Detroit automakers cut costs by mass production, but Detroit also displays a new model a year.

No. 6 braked to a creeping 10 miles an hour over the trestled Manchac Bridge, then traveled on through scattered rain to Hammond. Talk and laughter in the lounge was of good humor and small significance—mostly southern businessmen whose lack of planned pretense seemed to compensate for formal-fit black and navy blue attire. In particular I recall a large man with a voice that would carry over open safety valves who variously pointed out the best hotels of small towns the *Panama* passed, paid the bill on drinks for an assortment of friends and utter strangers, and related an earthy brand of Tennessee humor.

As No. 6 heeled to the curves entering Jackson, Miss., the fat man chided passengers who found it difficult to navigate down the lounge and was not in the least perturbed when a bottle of soda water finally gave up the fight with gravity and slid neatly into his lap.

As the *Panama* stood in Jackson, I awaited the jolt or thud or both that would signal the uncoupling of No. 6's New Orleans-Jackson parlor car and the addition of a Pullman that originated in Gulfport. But instead of a jolting thud, I detected a weak tremor, as if a car inspector had opened a journal box cover on our car (naturally not the case because the *Panama* rides on roller bearings). Either there was no pickup and set-out in Jackson on the night of January 5, or the IC switchmen were masters of their art.

Sleep was hard to come by, in spite of a lower berth, correct car temperature, good roadbed, and all the other details that make for rest. Maybe by that hour I was thinking of the *Panama* in terms of Trains, anxious to write even a personal, subjective account of the journey. Or I might have mused that I could endorse No. 6 for even so stern a critic of railroad manners and morals as a brother who is gainfully employed in the aviation industry.

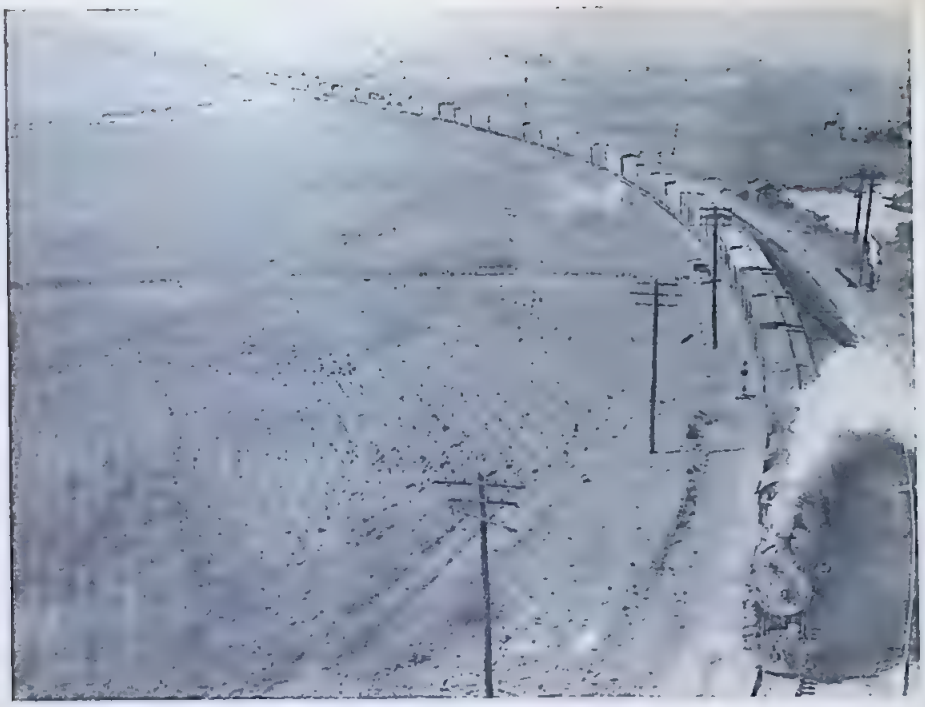
Unless I was aboard a rare trip of the *Panama,* this Pullman streamliner was a precision-engineered operation drafted to hold its own in the de luxe passenger market by offering satisfaction — not simply a package of speed and orange-yellow-brown cars and diesels, but a careful handling of the details from the type face of the menu through to choice and training of personnel. One felt a guest aboard this train. That was it: a *guest,* not just a ticket number going along for the ride.

Moreover, this was a train that rode right through the factual barbed wire so often strung up in answer to passenger service criticism. Seniority didn't stifle train crew courtesy on No. 6. Diner deficits didn't cut the quality of meals to meat loaf standards. I was pleased with but did not pay for the New Orleans newspaper. The Jackson station switcher had to lock into the identical couplers employed on other roads. Were all these extras the exclusive right of the *Panama*? Comment of friends on the dawn-to-dusk *City of New Orleans* made that answer doubtful. Was it the controlled-capacity, long-distance pattern of the *Panama* that made quality feasible? I had ridden similar mileages on other streamliners and never been unusually impressed by the service.

The answer was almost too clear. On *my* adding machine, at least, the *Panama Limited* performance could be commonplace provided other carriers invested the time and cash and effort of the Illinois Central. This was not to say that IC had a corner on the market. My own travel experience, on which this letter is based, is too limited to underwrite an opinion like that. But on the basis of my own traveling, coupled with printed and vocal notes of repute on the subject, I venture to say that not more than 15 per cent of the nation's feature trains are providing the full scope of service expressed in the *Panama.*

Morning came to me at Mattoon, Ill. Snow and ice lay over the land. Three quarters of an hour later, in Champaign's high-level station, I could look down from the diner to a man throwing salt over the slippery

"Minutes later the long classification tracks of Mays Yard were sweeping by: the miracle yard rushed to completion in 1944 to blast the freight blockade."



C. W. Witbeck.

"Frequently the lull was lost when a modernized Mountain or 2-8-2 slammed by in the opposite direction, its rapid exhaust buried in a banging roar of tonnage."

ground about the express office. Meantime, breakfast was just as fine as dinner the night before.

Up forward, the distinctive lounge of *General Beauregard* maintained a reversed look. The drinks and jokes and talk of the previous evening had faded; a couple of passengers smoked and rendered the expected comment on Illinois weather, another studied the sports section.

Frequently the lull was lost when a modernized Mountain or 2-8-2 slammed by in the opposite direction, its rapid exhaust buried in a banging roar of tonnage. It was good to be riding a road on which the steam locomotive still held down both the hotshots and the drags in the old tradition. How long would it last?

No. 6 was running late, the conductor said, and the train had grown during the night. He sat on one of the iron-leather chairs and identified the three diesel-powered passenger hauls that hurried by on the southbound main as (1) the *City of New Orleans*, (2) the coach section of the every-third-day *City of Miami*, and (3) the Florida streamliner's Pullman section.

The captain figured that we should be in Chicago by 10 a.m., allowing for the fact that "when you've got 17 cars and two units, you're not going to set the world on fire."

"It was good to be riding a road on which the steam locomotive still held down both the hotshots and the drags in the old tradition. How long would it last?"

Maybe not, but 4000 Electro-Motive horsepower at least had the globe smoking as they gunned through Matteson, riding over the fill that hurdles the tracks of the Elgin, Joliet & Eastern and the Michigan Central. At Homewood No. 6 flashed into the electrified zone and skirted huge Markham Yard on the west side.

And then came the names of Chicagoland: Cook County Lumber, Electro-Motive, Buda, Van Cleef Brothers, IC's Burnside car shops. We rolled over Grand Crossing (beside the Nickel Plate and over Pennsylvania and Central) with the porter calling out 63rd Street.

A two-car Chicago South Shore & South Bend electric train slipped past toward Michigan City, then a four-car South Shore schedule paralleled us out of 63rd Street. South Shore gained speed, passed No. 6, tunneled under our main line to reach high-level suburban platforms. A couple of New York Central trains (more correctly, Michigan Central and Big Four) rolled by toward 63rd Street.

The *Panama Limited* entered its station track, drifted by the red caps and passenger agents, spent its motion at approximately 9:55 — just 25 minutes late but in comfortable time to make the *Morning Hiawatha* departure at 10:30.

I call that my finest train trip, Mr. Barr, but permit me to define the compliment as meaning over-all excellence of service. I have tried to keep the average traveler's needs and wants in mind, yet pull no punches from a critical, railroad point of view. The *Panama* was not the most exciting nor the most enjoyable rail journey I have known. To say that would be dishonest to a pair of Louisville & Nashville K-5 Pacifics that staged a dazzling run of the *Flamingo* one wet evening in 1945 from Louisville to Junction City, Ky. Nor could I ever forget a Burlington 5600-series Northern racing 17 cars through Nebraska one early morning at a steady mile-after-mile gait of 80. Not only these two selected memories occupy my mind, but also mixed trains and troop trains that brought the rider nearer to the pulse of railroading than is permitted by the soundproofing and diesels of IC No. 6.

But such journeys do not encourage the trade of the disinterested, so to the *Panama* must go the orchids. You have real reason to be inordinately proud that it carries the Illinois Central's diamond insignia.

Best regards,

David P. Morgan/re

Frank Quin.

This trim, rather British-looking 4-4-0 was photographed in 1946 at Saratoga Springs, N. Y., as its engineer waited for the highball to take the Delaware & Hudson's two-car local up to North Creek and back.

Henry J. McCord.

A little engine with a big number, on a road with Chicago in its title but no Chicago on its timetable — that's No. 502 of the Chicago & Illinois Midland (at Pekin). The C&IM's 500-class Americans are still in use.

The manganese-vanadium rods of New York Central's first Niagara, class S-1a No. 6000, receives a cotton waste rubdown. The 4-8-4 was built as an experiment in 1945, paved the way for 26 others from American Locomotive before NYC started road dieselization.

Chester G. Horton Jr.

Mt. Snoqualmie stands as a sentinel over Hyak, Wash., as the Milwaukee Road's Olympian Hiawatha emerges from the east portal of Cascade Tunnel at the summit of the Cascade Mountains. The Hi was inaugurated on June 29, 1947, as the Milwaukee's high-speed bid for the Chicago-Northwest trade. It replaced the old Olympian as the standard-bearer, and the Olympian became the Columbian. Diesels no longer are used on this train on the Milwaukee's electrified divisions.

Jerome F. Sheldon.

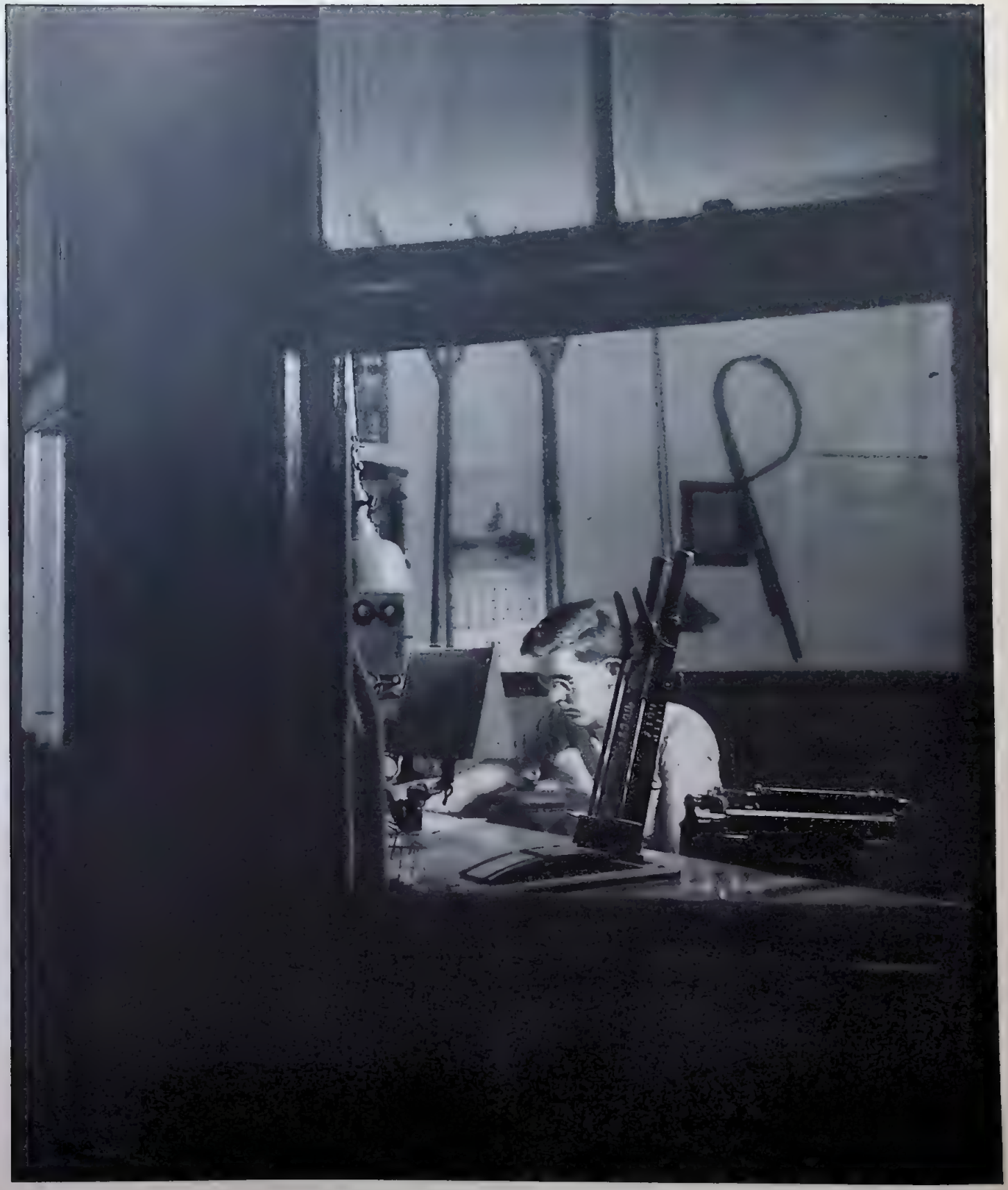
Little roundhouse for a little railroad: an air view of the Sierra Railroad's engine terminal at Jamestown, Calif., up in the Mother Lode Country. Here is where the short line's Mikes and Consolidations are shopped and serviced. The 57.4-mile lumber carrier's chief claim to fame is the astonishing number of movies which Hollywood has shot on location in its territory. The gamut from Texas rangers to Indians have used its line.

David K. Johnson.

Brightly varnished GE diesel No. 2, the sole motive power of the 25-mile Suncook Valley Railroad, leisurely side-rods across U. S. 202 at Epsom, N. H., on its way over to Pittsfield, Mass., with the SV's daily-except-Sunday plug run. Once upon a time a neat 2-6-0 hauled the road's open-platform mail-baggage-coach combine, but the inroads of dieselization came to the little line as it did to its connection, the Boston & Maine.

B. J. Dodge.

Northern Pacific class A-3 4-8-4 No. 2664 backs off the drop pit at Missoula, Mont., ready to head up the pre-diesel North Coast Limited from Missoula to Spokane in April 1945. Three-unit EMD's have replaced steam locomotives on this plush streamlined run down the Main Street of the Northwest.



Wayne E. Davenport.

Don McIntyre, Delaware & Hudson's third-trick operator at Port Kent, N. Y., works out the dark and lonely hours of any railroader's day surrounded by the old, familiar reminders of his occupation.

Rio Grande

Through the Rockies

BY DAVID P. MORGAN

Climb aboard the steam and diesel power of the Denver & Rio Grande Western for an exhilarating ride on 3 per cent grades and 10-degree curves

JUST a handful of minutes remain on the clock before train time as you walk through the train gates of Denver Union Depot. You are armed with an orange cab pass in your wallet and a coach ticket in your pocket, and you're set for 25 hours and 545 miles of mountain railroading styled by the road that goes "through the Rockies — not around them." Within the next double circle of the hour hand, the Denver & Rio Grande Western will put you through 11 miles of tunnels, including the second longest in the U.S., then will bring you back across the Continental Divide at an altitude of over 10,000 feet. You'll run under James Peak and thread the Royal Gorge of the Grand Canyon of the Arkansas River; you'll climb Tennessee Pass and trail the Colorado River. You'll ride on heavy steel and slag ballast, protected all the way by centralized traffic control or automatic block signals. You'll even catch an earful of radio communication on a cab-to-caboose basis. Ahead lies a railroad spiked with high adventure, and your credentials specify a ringside seat.

The schedule calls for riding an Electro-Motive diesel over the Moffat Tunnel line west to Glenwood Springs, with a Baldwin Northern on hand to bring you back through the Royal Gorge. An articulated helper might even get into the act if the dispatcher decides that your road engine could use a boost over the Divide.

The tiger-striped *Prospector*, No. 7 on your operating timecard, is made up to a modest five-car consist of black-and-yellow equipment this summer afternoon: a single head-end car, one comfortable coach, a wide-windowed diner-lounge and two Pullmans. Up forward the standard-weight limited is fronted by No. 548 (First ¼ and Second ¼), a 2700-horsepower A-B originally delivered by Electro-Motive in 1944 as half of an FT diesel freighter. Now broken up, fitted with steam boilers, repainted and sporting enlarged number slots, 548 and her sister are doing a capable job of handling the Rio Grande's overnight Denver-Salt Lake passenger trade.

You climb the steps, push open the heavy cab door, and make yourself at home while No. 7's cigar-smoking engineer, George C. Smith, sets up the brakes for the car inspectors back along the train. Satisfied with the behavior of the ET equipment, he examines your pass, and extends his hand in friendly greeting. You trade small talk, then relax in the third leather cab seat. Behind the engine-room door a pair of V-type, 16 cyl-

H. R. Griffiths.

Rio Grande's Exposition Flyer, now replaced by the new California Zephyr, loses altitude east of Cliff on its way down from the Moffat Tunnel to Denver with eight cars and No. 1705, a 4-8-4.

inder GM diesels make lazy engine conversation while, one track over, the Union Pacific's *Pony Express* loads passengers for Los Angeles and Frisco.

Five-thirty on the nose. Fireman C. B. Field is in the cab, train brakes go into release, and Smith notches back on the throttle. Simultaneously, a great gray-boilered Northern urges UP's *Express* into motion in a successful effort to make the crossover at the end of the platforms ahead of the D&RGW. The red dwarf signal holding back the *Prospector* stays scarlet until the UP clears, then winks to a welcome yellow. Eight traction motors soak up direct current and No. 7 rolls a half mile to the double-track Colorado & Southern crossing, makes a full stop, then accelerates past the Prospect Yard office. Fireman Field grabs a set of "flimsies" here — a clearance and several slow orders — and the *Prospector* is officially on its way west up and over and through the Rockies.

Now a panorama of Rio Grande railroad operations unfolds rapidly before you through No. 548's split windshield: the interchange tracks at Prospect, the Fox Junction joining with the main stem of the ex-Denver & Salt Lake, the freshly laid trackage of the new $2 million North Yard, then the old Moffat Road's Utah Junction shops and yards. No. 7 swings west into the sun through a terminal of tonnage trains and diesel goats, compound Mallets and black steel cabooses. You enter single track with the diesel wound up to 55 miles an hour, riding 115-pound rail laid down on neatly tapered ballast. No. 7 came into C.T.C. territory at Prospect and will continue under its protection 128 miles west to Orestod. As the yards slip behind, the diesel is running like a Hamilton watch; a glance at the dash shows that all is well with generators, engines and motors. The boiler gauge on the fireman's side clings to a safe 132 pounds.

On the left, the narrow gauge lines of the Denver Tramways follow you out to Leyden, where the Rio Grande starts its continuous 2 per cent grade to the Moffat Tunnel. Speed falls to 45 as you climb up through a land of broad green moors; all the way to Arena, 18 miles out, it seems that the railroad is trying to parallel the Rockies instead of crossing them. There, however, the illusion fades as the main line enters a twisting right-left-right set of 10-degree curves. The dial on the Chicago Pneumatic speed recorder slips back to 20, then to 15, 14, 13 miles an hour. Now the line ascends to the sky on a winding fill. On one side the plains of eastern Colorado roll away to a hazy horizon; on the other stands the front range of the Rockies — tall and harsh. The name of Rio Grande assumes new luster in your mind as you see it, first-hand, tackling altitudes that would make an army pack mule blink.

As the engine crew speculates on where the *Prospector* will meet the eastbound *California Zephyr* and who will take siding (under C.T.C., only the dispatcher has the answers), No. 7 enters Tunnel No. 1; the cab gauges make yellow faces in the darkness and 32 cylinders multiply their roar by echo. Then you're out in the open again. As one blind curve after another follows this 330-foot bore, you admire the blind faith which C.T.C. inspires. The fastest train over the Moffat — a brand-new stainless steel streamliner — is within three miles of you, separated by mountain shoulders no man's eye can penetrate, yet neither Smith nor Field displays the slightest concern for safety. They

Robert A. LeMassena.

A pair of D&RGW Northerns double-head up the old Denver & Salt Lake's 2 per cent from Denver to the Moffat Tunnel in 1943. Here Nos. 1704 and 1802 pause at the Cliff plug for water.

know that not even a dispatcher's error could jinx C.T.C., and they depend on the signal crews to keep their operating miracle in good repair.

No. 7 receives a green block into Plain and you find the 11-car *California Zephyr* standing on the siding there behind Alco-GE No. 600, a three-unit orange-silver diesel of 6000 horsepower. Train crew members wave from the vestibules of silver dome cars as you pass the pride and joy of three railroads: CB&Q, Rio Grande and Western Pacific. You take a last long look at the plains; from here, the road claims, you can see nearly a fourth of the state on a clear day.

Seven more tunnels recede behind the markers of the *Prospector* and then you enter famous, infamous No. 10, the 1562-foot bore that burned in 1943 and blocked the Moffat line for 2½ months. D&RGW men still shudder when they think of how much of the road's huge war traffic was diverted via the Royal Gorge. And they enjoy a measure of pride in the fact that the system carried on while contractors and railroaders worked day and night to reopen No. 10. It's lined with concrete now — the road is taking no more risks.

More tunnels — 29 of them from Denver to East Portal — loom up before you as the train shifts into a path beside the bends of South Boulder Creek. "Scenic" seems a cheap way to describe the railroad up through Crescent and Cliff; here there is neither the prolific green of the Great Smokies nor the endless ridges of the Alleghenies, much less the classical sculptured look of the Mohawk Valley. Here there is just brute mountain—close and terrible and awesome.

The red brick Rollins depot comes up and then you pass under the highway bridge that carries state road No. 119. Fireman Field points out the Espy Ice Company plant, which ships its product in carload lots when the snow falls. Then Tolland slips by at 7:08 and you cross to the engineer's side of the cab to get a look at the D&SL's old zigzag grade up to Rollins Pass.

It's been over 20 years since the old Moffat Road sent a train over the Divide at an altitude of 11,680 feet above sea level, but the roadbed of the "Giant's Ladder" still remains in tribute to a hardy race of men and Mallets. No catenary was ever hung over the railroad that climbed to Corona; no diesel ever circled the shores of Yankee Doodle Lake. It was a toilsome crossing, built and maintained in service by 2-6-6-0's and Consolidations, Ten-Wheelers and 2-8-2's. The little 300-series 4-6-0's have been junked now, but the ex-D&SL Mallets you saw parked in Utah Junction were the identical machines that went over Corona. In fact, as Fireman Field points out, No. 210 went over the hump in both senses. The Alco engine lost her brakes on the grade and jumped the iron minutes later; parts of her are still rusting away in the high country above Moffat Tunnel.

James peak and the Continental Divide now lie directly in your path. No. 7 runs past the East Portal wye, where the old D&SL started its climb over Rollins Pass, then rolls into the 16 x 24-foot doorway of the $18 million Moffat Tunnel. Immediately the grade drops to an easy 0.3 per cent inside the 6.2-mile, concrete-lined bore; rail clicks cease, for the 130-pound rail is continuously welded throughout the tunnel.

There's a temporary, instinctive lull in cab talk; you are filled with wonder inside this mountain-piercing tube,

and true wonder chokes off conversation. For a time, at least, it's sufficient to listen to the reverberating talk of the diesels, to watch the moisture forming on the windshield until the wipers must be switched on.

Apex. That name on a reflector-button sign indicates you're through a third of the Moffat and over the Divide; in just over 50 miles you've climbed nearly a mile to an altitude of 9239 feet. With the grade now falling at 0.9 per cent, Smith closes the throttle and brings the transition lever around to the right, thereby putting 548's dynamic braking to work.

You lean across the dim cab and ask Field about the series of reflector number indicators lining the tunnel on the right.

"They indicate a refuge station to the left in case of emergency," he explains. "Each is a small room equipped with a phone to the dispatcher in Denver."

The Moffat is equipped with 21 such stations according to your count.

After 11½ minutes of tunneling the *Prospector* comes out into the open at Winter Park, where a little white-haired woman "op" hands up a sheaf of slow orders as the train passes without stopping. Then, without warning, other voices enter the cab; you hear the engineer of Extra 549 talking to his conductor, yet no such train is in sight. Smith smiles at your surprise, then indicates a radio receiver behind his back.

"That's an eastbound freight getting ready to leave Tabernash," he says. "He'll clear just as soon as we get in down there."

The thought strikes you that D&RGW is an ultra-modern carrier, what with two-way radio, C.T.C., diesel power, and only General Manager A. E. Perlman knows what else.

The crew verifies your thinking. Smith recalls that when the Union Pacific was shut down tight last winter and was diverting a good share of its tonnage to the Rio Grande, he passed as many as 15 eastbound UP trains in one night on his Denver-Bond run alone. It is this admirable ability to put trains through the mountains with real dispatch that is winning the D&RGW new traffic right and left. Now the Rio Grande, more than ever before in its history, is a name to be reckoned with in western railroad affairs. It is now free of its old Mopac-Western Pacific control and is thoroughly overhauled from the ballast up; and it's making no bones about the fact that it's out to play the field.

You're rolling 40 when No. 7 goes through Fraser (first town of any size since Denver) and down a broad valley to a red-over-yellow signal at the east end of Tabernash, the helper station for the climb to the Moffat Tunnel's west portal. Here the *Prospector* circles the town on the old main, now used as a passing track. As you look through the dusk you see Extra 549 (remember the radio report?) pulling out with a 5400-horsepower diesel on the front and No. 3618, a simple 2-8-8-2, shoving at the rear. Field says, "We haul big tonnage on this road."

A set of multiple canyons is coming up now and only frequent information from the fireman can keep you abreast of the passing landscape. At the moment, Field says, you're following the glacial twists of the Fraser River Canyon. Next, at 8:10, No. 7 shuttles through Granby at 55 miles an hour with both power and brakes off; here you join the Colorado River and enter Byers Canyon. Extra 546 West, headed by a diesel, is passed up at Sulphur, then Extra 544 East slides by on another passing track minutes later, at 8:24. Next comes Kremmling and the gateway to Gore Canyon; here you catch a glimpse of ex-D&SL Mike No. 1229, dozing on a siding with a work train.

It's too dark now to see much of Gore Canyon's geographic complications as No. 7 idles along at a dawdling 25 miles an hour (the lax timecard, which already matches competition, may be slashed two hours when Rio Grande receives the new streamlined equipment it has on order). In the dark cab the conversation ranges from future schedule cuts to the longer trains made possible by diesels, and then the engineer and fireman answer questions about themselves. Field's father handled South Park trains, it turns out; next you find that Smith was in the cab of the last narrow gauge run on the D&RGW out of Leadville. He's also a "rotary man," an occupation of rare honor in mountain country where the operation of the snow plow is considered an art. You tell them about water level railroading on the New York Central and they inform you of the problems embraced in climbing 2 per cent grades and rounding 10-degree curves. Only the hum of the dynamic brakes and the click of rail joints disturb the quiet atmosphere.

Orestod rolls by at 9:47. This is the junction with the ex-Denver & Salt Lake main line to Steamboat Springs and Craig. Smith switches on the bell and cab light. Three minutes later No. 7 is in Bond, making its first stop since it halted at the C&S crossing in Denver, over 128 miles back. It's also the first application of the air brakes in the same mileage.

Smith and Field bid you good night and climb off the 548. Within two minutes the new crew is aboard and No. 7 is on its way over the 38-mile Dotsero Cutoff, completed in 1934. The new engineer is G. I. Murphy, a boxing fan and one-time boomer with experience on the C&EI, B&O, Frisco and other midwestern pikes. His fireman, C. B. Urban, is a scholarly looking chap wearing horn-rimmed glasses. A special investigator is also aboard, riding to Rifle.

As you head down Red Canyon you discover that the Rio Grande has performed a neat trick in the diesel's cab: the rotating headlight can be manually controlled by the crew in the same manner as an automobile spotlight. The arrangement permits the crew to see around curves in advance of the engine's immovable headlight. No man on the D&RGW thinks more of the gadget than Murphy, a victim of more than one serious slide. He also notes with satisfaction the silver detector fences, often mounted on telephone poles; one break in that wire would throw the automatic block signals to red.

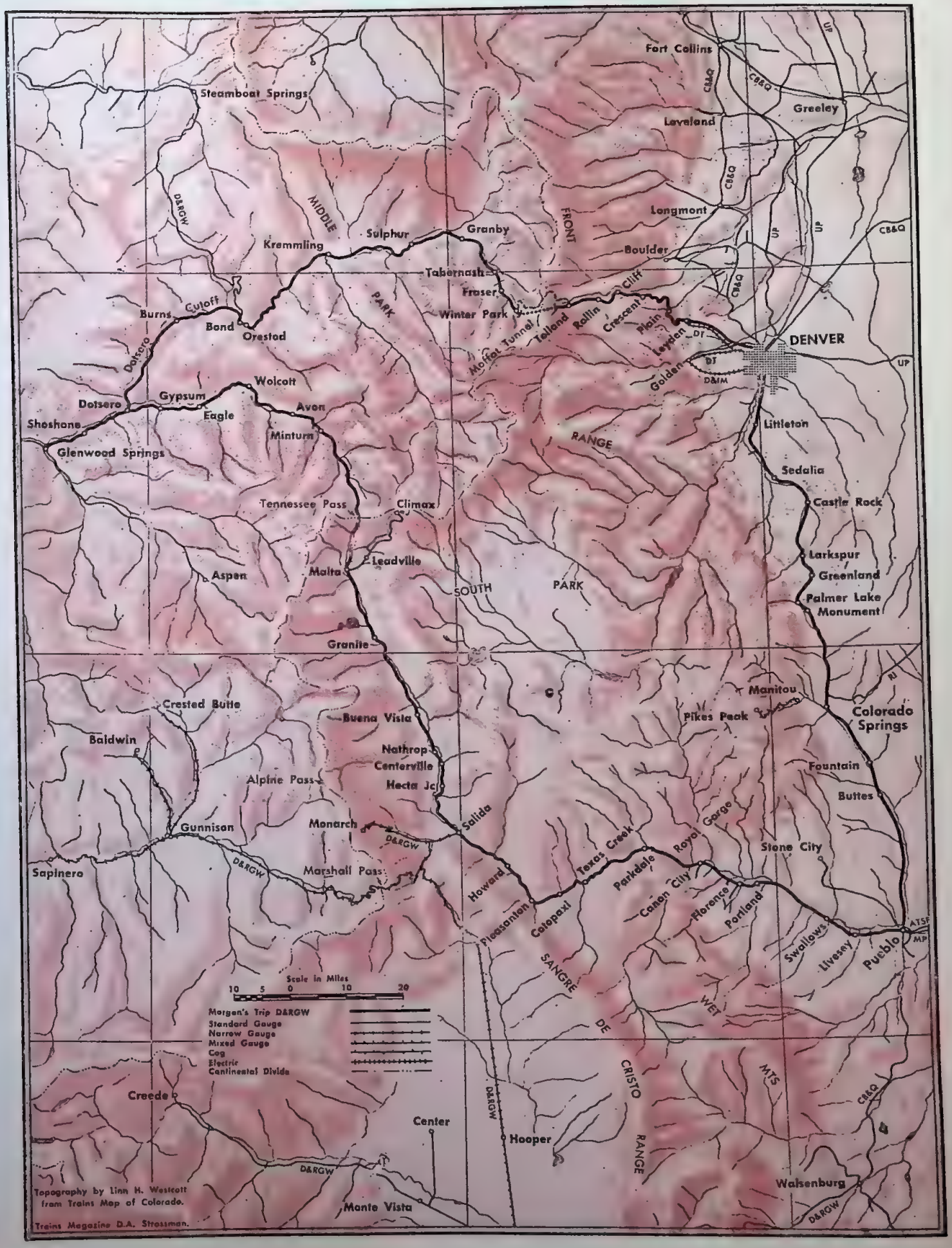
The timecard calls for a 42.4 mile-an-hour average over the cutoff and you frequently get near the 55 maximum allowed in the books; at that speed No. 548 displays a tendency to "gallop" a bit, especially on tangent track.

Dotsero comes next, and the *Prospector* starts down the fabled Glenwood Canyon of the Colorado River, just 18 miles out of the Springs. The line continuously changes direction — north, south, east, west — in its attempt to follow the rapid waters of the river. The red walls of the canyon itself are lost in the black of night, but you'll see them in the morning.

The headlight picks up a smoke box loaded with air pumps and you pass Extra 3613, a slag train headed east at Grizzly behind one of the road's renowned 2-8-8-2 articulateds.

Now Murphy gives your train an easy application of the brakes and you arrive at Glenwood Springs on time, if not a minute to the good. There is a report, incidentally, that Judge Wilson McCarthy, big boss of the D&RGW, has a record of the *Prospector*'s nightly performance placed on his desk each morning. If so, he should be satisfied with No. 7's sprint to Glenwood. More than likely, it'll just be routine information.

After a two-minute pause, the *Prospector* leaves. It becomes just two red markers and a lighted tail sign, then nothing. Out in the void of near-midnight a diesel hoots. You climb the steps from the neat depot to the street, drop into an all-night stand


Fort Collins
Steamboat Springs
Greeley
Loveland
Longmont
Boulder
Kremmling
Sulphur
Granby
Tabernash
Fraser
Winter Park
Moffat Tunnel
Tolland
Rollin
Crescent
Plain
Leyden
Golden
DENVER
Burns
Cutoff
Bond
Orestod
Dotsero
Wolcott
Gypsum
Eagle
Avon
Minturn
Shoshone
Glenwood Springs
Littleton
Sedalia
Castle Rock
Tennessee Pass
Climax
Leadville
Malta
Aspen
Larkspur
Greenland
Palmer Lake
Monument
Granite
Manitou
Pikes Peak
Colorado Springs
Crested Butte
Buena Vista
Baldwin
Nathrop
Centerville
Hecta Jc
Alpine Pass
Fountain
Buttes
Gunnison
Monarch
Salida
Royal Gorge
Stone City
Sapinero
Marshall Pass
Howard
Texas Creek
Parkdale
Canon City
Florence
Portland
Pleasanton
Colopaxi
Swallows
Livesey
Pueblo
Scale in Miles
10 5 0 10 20
Morgan's Trip D&RGW
Standard Gauge
Narrow Gauge
Mixed Gauge
Cog
Electric
Continental Divide
Creede
Center
Hooper
Walsenburg
Monte Vista
Topography by Linn H. Westcott from Trains Map of Colorado.
Trains Magazine D.A. Strossman.

for coffee and a record on the jukebox, then check in at the hotel for a welcome six hours of sleep.

MORNING MISTS drape Glenwood Springs in a gray curtain as you walk over to the station shortly after 7 a.m. No. 2, your train for the next 11 hours and 360 miles, is marked up "On Time" and a few travelers are already gathering. Two or three wagons of mail and express have been wheeled out on the damp platform for loading.

A deep whistling beyond the bend of the Colorado River takes your gaze out to the west where a plume of soft coal smoke is riding low in the misting rain. On the dot at 7:30 the *Royal Gorge* enters Glenwood behind No. 1801, one of the most impressive Northerns you've seen in a West full of them. You take a good look before you climb up into her vestibuled cab, for this 356-ton locomotive and tender will be your personal transportation clear through to Denver. She's one of five M-68 class 4-8-4's, Baldwin-built in 1938 for heavy passenger service and now rounding out their last days on first class schedules.

When new, the 1800's worked both the Moffat and the Royal Gorge lines of the D&RGW. Later, it developed, the long wheelbase of the M-68 was too rigid for the curvature of the D&SL, especially when the engine was working hard. One finally went on the ground inside a tunnel and that ended their term on the Moffat once and for all. Between Salt Lake City and Denver, via the gorge, the M-68's have always turned in a good account of themselves, however; they have what it takes to conquer 3 per cent grades and they can run fast when the occasion demands. In fact, the only obstacle between the 1800's and a ripe old age is the diesel. Rumor has it that Rio Grande plans to supplant them on Nos. 1 and 2 with diesel power as soon as streamlined equipment is added to the trains. After that? — well, the road has already cut up a lighter 4-8-4 in Denver. You'd best climb on and ride No. 1801 while you have the chance.

Engineer E. C. Fahrmayer, the man on the right with the short pipe, shakes hands, then introduces you to Fireman Sidney Lutes. They've come from Grand Junction and will take No. 2 as far as Minturn. You set up the leather seat in the left-hand doorway of the cab and get set to roll.

It's 7:32 by your watch as the brakes go off and the throttle comes back. The big Northern moves her seven-car load out and down along the weave of the Glenwood Canyon. Even in the mists it's impossible to miss the glories of the tall red shoulders of the canyon in daylight. Accented by evergreens and jutting out into the river, they measure up to the D&RGW's extravagant advertising in their behalf. As you watch, the power plant and dam at Shoshone pass by; then the fireman is picking up "19" orders on the fly at Dotsero. Without apparent effort, No. 1801 hurries up the 1.2 and 1.3 per cent grade at 50 to 55 miles an hour.

Fahrmayer is on his feet, coaxing the 4-8-4's slipping drivers, as you leave the flag stop at Eagle. The grade along the Eagle River is stiffening and the mist seems colder by the mile. You shut the vestibule door and settle down to watch a judicious handling of sand and throttle, cutoff and brakes. Because of it, No. 2 is into Minturn with a minute or so to spare.

Once more the crew changes; the new men introduce themselves as J. W. Glesener, engineer, and W. Z. Eggleston, fireman. While you're talking, No. 3610, a simple articulated 2-8-8-2, couples on ahead for the 3 per cent climb up to Tennessee Pass. No. 2 isn't running heavy today, but Rio Grande is exposing the schedule to no delay. Outside, the mist has already shifted into hail and rain.

The blue flags come off after the standard brake test, and both engines whistle off. You take a last look at Minturn: over here a crew is assembled in consultation by their Mallet, deciding how to rerail the empty hoppers that the 2-8-8-2 pulled on the ground; farther up the yard a 5400-horsepower diesel is arriving from the east with a consist of empties and drag freight. The railroad becomes double track outside the town, with our eastbound main holding to the right side of Eagle River Canyon and passing through most of the tunnels.

Tunnels. The fireman slams his window shut, leans toward the center of the cab, and opens the vertical-lift Economy firedoors a crack. Smoke tries to seep in, the air gets tight, the temperature climbs — then you're out again. You're hitting 30 miles an hour as you run through Red Cliff, cross the Eagle River, and start the 3 per cent sustained climb to the pass. A couple of Mallet helpers slip by on the westbound main. Altitude now is 8600 feet and the snow is thick and horizontal.

After a flag stop at the deserted Pando agency, No. 2 runs along the miles and acres of Eagle Park once occupied by Camp Hale, the Army's training area for its 86th and 87th Division ski troops. Hundreds of concrete barrack foundations and a few depressed theater floors remain to mark the site.

No. 2 plunges into Pando Tunnel, enters the C.T.C. zone that extends

six miles, climbs into the open for a breath of cold air, then goes into the 2550-foot Tennessee Pass bore, just below the summit. Smoke filters in and tries to fog the lighted cab gauges, and you feel your breathing rough and strained. This is the opposite end of the railroad book from vista domes and tip-top taverns. It's railroading stripped of all glamor, yet robed in a glory unknown to parlor car passengers.

Now you're 10,240 feet up from sea level at Tennessee Pass. No. 2 pauses and helper 3610 uncouples, moving off to the wye with a farewell call on her lonesome, owl-hoot whistle. Thanks to her assistance, you're more than on time up to the highest point reached by a standard gauge main line in the United States.

Glesener pokes his oil can about the 1801's running gear, climbs back in the cab, and kicks off the brakes for the run down to Salida. Along here the Colorado terrain becomes more expansive in the Arkansas River Valley. Malta, next stop, is only four miles from the highest incorporated town and certainly once the wildest:

→These automatic high-pressure car washers at the east end of Moffat Tunnel cleanse smoke-stained passenger equipment. ↙Trailing each of the Rio Grande's Moffat line freights is a black steel caboose with roof radio antenna.

Both photos (also page 40), W. H. Mitchell.

Leadville. Alone now in a high and barren land, Leadville is today a clash of 19th Century buildings and harsh neon signs. From the main line, though, you can see Leadville's principal scenery, Mount Massive and Mount Elbert. At 14,420 feet, Elbert ranks as Colorado's highest peak.

At Yale you pick up a track gang flagman who gives the engineer slow orders to Buena Vista and beyond. In another mile or so you pass the gang eating lunch after a morning of spiking down new rail. The crew directs your attention to the Collegiate Peaks — Princeton, Yale and Harvard—as you drift down to Buena Vista. As you look left or east from the cab here you can still see the old Colorado Midland line, poking in and out of the ledges high above the town.

Once off the new rail, No. 1801 picks up to 50, 55, 60 and 65 in an effort to recover the time lost under the slow orders. Through the tight and winding confines of Brown Canyon the speedometer needle slips to 45. The *Royal Gorge* leaves the Canyon for a wide basin, which brings you into the geographic heart of the state and the double-gauge junction of Salida. No. 1801 uncouples at the modernistic rail-bus station and moves to the engine terminal for fuel and servicing.

There's just time to look at the bridge (behind the station) which the narrow gauge line uses to cross the Arkansas River in Salida on its way to Monarch, Marshall Pass and San Luis Park. On the Salida siding you see the little gondolas that carry coal in from Crested Butte, but the narrow gauge 490-series Mikes that pull them are either in the roundhouse or away from town. In fact, Salida remains rather quiet in early afternoon. You see No. 1800, a sister M-68, and Western Pacific's 4-6-6-4 No. 402, the latter on its way to the Chicago Railroad Fair, parked at the engine terminal. You hear the distant sound of a diesel shifter. But that is all. You don't mind, because you've just seen the Angel of the Shavano, a feminine-formed crevice of snow on the slope of Mount Shavano. That alone is enough to remember Salida by.

No. 1801 couples on again and you climb up behind Engineer Johnny Weir and Fireman H. Chandler. Weir has been making this same Salida-Pueblo run since 1904, first as a fireman, then as engineer since 1908. Chandler, on the other end of the seniority list, is a young chap who looks like a football player and smokes a collegiate pipe. Both men lend the appearance of knowing exactly what

Ralph E. Hallock.

Second 36 enters Tennessee Pass Tunnel with a diesel leading and two articulateds pushing.

makes a 4-8-4 tick, so you expect — and get — a good run.

No. 1801 walks out of Salida nearly 10 minutes off the timecard and evenly works her train up to over 40 miles an hour. You're running along beside the Sangre de Cristo range, which stands a mile high on your right. It's majestic, but after observing mountains and more mountains for hours on end you give up any attempt at comparison—the task is too much for the tourist mind.

As No. 2 travels steadily toward the most celebrated spot on the entire Denver & Rio Grande Western, you drink deep of the experience of riding the 1801. Certain impressions seem to stand out: the colossal bulk of the backhead, the slight shudder being sent through the entire locomotive by a slightly-out-of-balance driver, the pressure gauge dial pointing to 285 pounds per square inch. Also, the manual and air-operated whistle levers, and Chandler's deft hand on the stoker valves. The scene has ironic conclusions. You wonder how a man could stand to ride the 1801 on a daily basis, what with the fine coal dust from the tender blowing down his collar, the continuous rock and roll, and the white heat from the open fire doors. And yet, you find it difficult to restrain the enthusiasm of being aboard an M-68 hitting it up on the downgrade. The fascination is in that deep whistle, in knowing that only a fraction of a flange holds you back from eternity on the curves, and in the feel of unmeasured power being produced by a pair of 20 x 30-inch cylinders fed on superheated steam.

The *Royal Gorge* is continuously falling on a 1 to 1.4 per cent grade as it bores through Red Hill Tunnel, makes a flag stop at Cotopaxi, and goes on to cross the waters of Texas Creek. You pass a westbound freight next at Parkdale and catch your first clue of what's to come; from here it's possible to see a bit of the suspension bridge over the Royal Gorge.

Now the big Baldwin is heeling to the 12-degree curves entering the fantastic cleft, and you leave your seat for a standing position in the open cab door behind the engineer. Immediately below the 1801's four pairs of disc drivers the rapid race of the Arkansas River is churning up waves of ocean stature. The quarter-mile-tall walls of the Royal Gorge keep pushing the river and the railroad together until at Hanging Bridge there is no longer room for both. Here, where the gorge sides are only a brief 30 feet apart, overhead steel trusses, based on both sides, literally hold the bridge above the river.

No. 2 stops for the traditional 10-minute sightseeing pause, and you climb down from the cab. Overhead is the World's Highest Bridge, a $250,000 span that carries automobiles over the gorge at an altitude of 1053 feet above the D&RGW. You wonder what the wind is doing up there, then think over what the railroad's guidebook says about the gorge: "Nowhere else does man come closer to realization of the Infinite."

Weir whistles in his flag and the passengers climb back on the train. At Gorge, first passing track east of Hanging Bridge, you find No. 1 in the hole with 4-8-4 No. 1804, rebuilt victim of a Denver boiler explosion.

As the *Royal Gorge* enters Canon City, site of the Colorado State Penitentiary, you naturally think of the famous break here which achieved a full-page photo in *Life* and became the subject of a movie. Rio Grande crews can remember other escapes. One night several trains came through while the lawmen and the convicts shot it out at the entrance to the gorge. The engine crews were forced to duck below their cab windows while the crossfire was directed across the main line of the D&RGW. You doubt if any man was riding the cupola that night either.

The neat Santa Fe agency in Canon City also takes you back, back to the Royal Gorge War days when both the Rio Grande and the Santa Fe were intent upon laying their own rails through a gorge that could accommodate only one road.

As you leave on time, the conductor of the D&RGW's own way freight jokes with No. 2's fireman, then yells, "We'll let you go ahead if you'll keep out of our way." The admonition is swallowed up in the exhaust of No. 1801. Still following the Arkansas River, you ramble through Florence, site of the nation's second oldest oil field, and Portland, where the entire town seems to have been made from cement. Portland is the location of the Colorado Portand Cement Company's main plant, as you might suspect from the concrete homes and lamp posts. Compared to the country No. 2 has rolled through today, the trip down to Pueblo seems almost like

riding through plains country. Comparatively speaking, it is.

There's time in Pueblo to order a ham sandwich and iced tea as the 1801 is serviced and the train is worked by the station switcher. While you eat, a steel-ribbed Missouri Pacific R.P.O. is detached and coupled on the front of MP's own *Royal Gorge,* waiting to depart for St. Louis with an old *Eagle* diesel at the fore. The Western Pacific missed its connection yesterday, however, so your train has no West Coast sleeper to hand the MP. Incidentally, you'll leave Pueblo with the same load because here the station switchmen add a coach to the consist of No. 2.

The hot afternoon sun has sent the Pueblo temperature spiraling up into the 80's, and Fireman M. H. Capra is asking who closed the cab ventilators on the 1801. You introduce yourself and tell him about the climate on Tennessee Pass this a.m. In a moment Engineer J. L. Latourette is on his right-hand seat box, hauling back on the 1801's throttle for the last lap to Denver.

As it leaves Pueblo, No. 2 passes near the Rio Grande roundhouse, and you catch a glimpse of No. 1605, one of the road's three-cylinder Mountains, now being rapidly scrapped. Then you're around the curve and facing nearly due north, climbing the 1 per cent incline to Palmer Lake. From Pueblo north the operation is under the "paired track" arrangement begun in 1919 when the D&RGW and the Santa Fe combined their lines to make a double-track Denver-Pueblo railroad. Each main is made up of both road's track and is used also by the Colorado & Southern.

The Denver Division operating timetable allows the 1800's a maximum of 70 miles an hour where conditions permit, but most of the way the curves and grades keep the speed down to 55.

Northbound traffic uses the Santa Fe's pleasantly designed station in Colorado Springs. Fireman Capra takes advantage of the long stop to take water in the 1801's 20,000-gallon tank. Then you leave, six minutes late. The toughest part of the run is dead ahead. From the cab you can look back and see the majestic shape of Pike's Peak, rearing up 1½ miles above the Springs.

Latourette has recovered two minutes by the time he takes the thundering 1801 over the summit at Palmer Lake and begins the easy run down to Denver. The lake is named for the road's imaginative builder, of course—a man whose name means as much to the D&RGW, even now, as Vanderbilt means to the New York Central. It seems fitting that a high spot (7237 feet) is named for him.

At Palmer Lake the St. Louis-bound *Colorado Eagle* passes with a planetarium dome car cut into its streamlined consist.

Now, riding a 1-per-cent-plus roller coaster grade, No. 1801 is almost running wild, held back only by Latourette's gloved hand on the train brake valve. After a couple of hundred miles of mountain fighting, the high-mounted Northern seems eager for the speedway. The sense of speed increases after you pass Littleton and the main line parallels the highway into Denver. Running in the mile-a-minute bracket, No. 2 manages to pass up even the convertibles; you can't help but envy their magnificent view of a 4-8-4 running free and easy on the last stretch of a long jaunt.

No. 1801 thumps over the South Denver manual interlocking plant, passes within shouting distance of the road's Burnham Shops, and heads into Denver Union Depot. You kick your cab seat down and stand in the vestibule door, watch in hand. It's 6:30 p.m. to the second as you stop, dead on time.

Grimy and sweaty with the evidence of 360 miles of cab riding on your face and hands, you're ready to head for the nearest hot bath. Yet you take a minute or so to glance alongside those disc drivers and up at that tremendous boiler. Then you turn and walk back along the train, tired but aware of an inner satisfaction that the Pullman travelers on No. 2 have probably never known.

The westbound Royal Gorge rolls down toward Pueblo behind No. 1800, the first M-68. Train was then called the Scenic Limited.

R. H. Kindig.

Chicago's ancient, rebuilt Dearborn Station lacks the track capacity of the more modern passenger terminals in the Windy City, yet it faces the same rush hour departure and arrival crises. The only way out — which sometimes fails to work — is to keep many switchers at work. Here is the

9:35 a.m. at Dearborn Station

Charles McCreary.

lineup, left to right, on a mildly busy morning last June: Monon diesels lay over between Louisville trains, Erie's Lake Cities departs with EMD power, a Chicago & Western Indiana (station owner) switcher shuffles cars, a Santa Fe road-switcher makes up the Grand Canyon, a Santa Fe 0-8-0 looks on, GTW's Maple Leaf awaits highball, C&WI steam engine couples into a coach, and C&WI EMD diesel switcher ties up to head-end revenue equipment. Erie has changed the departure time of Lake Cities to 9:55 so that it now waits in Dearborn until Grand Trunk leaves.

Edward H. Weber.

→Although the Virginian Railway is primarily a coal road, it does handle some diversified freight traffic and a passenger train each way on its heavy-duty main line. Here, a 25-car train which contains only a meager percentage of coal swings high above the housetops of Covel, W. Va., on a steel trestle.

↖The Scrantonian, an afternoon New York City-Scranton train on the Lackawanna, crosses the Passaic River at Chatham, N. J. Although the stone arch bridge was built in 1889, it showed few signs of age in May 1950, when the photo was made. The Scrantonian was given a diesel locomotive about a year later.

Wayne Brumbaugh.

The first section of Western Maryland freight train No. 324 blasts through the east portal of Knobley Tunnel and onto the bridge than spans the Potomac River south of Cumberland, Md.

→The last of the Boston & Maine's 40 Atlantics rumbles across the trestle below Wachusett Dam at Clinton, Mass., with a Boston-Clinton train. The trestle was built when the Commonwealth of Massachusetts built the dam and flooded the old right of way of the Massachusetts Central some 50 years ago. Engine is No. 3235.

Rail Photo Service: Henry P. Stearns.

Theodore A. Martin.

Our train was snowbound — and how we enjoyed it!

BY W. S. DULMAGE
AS TOLD TO VICTOR H. WHITE

I WAS interested to read of the *City of San Francisco's* plight in snowbound Donner Pass, high in the Sierra Nevada Mountains of California, for there is in my 80-plus years of existence a similar and exciting experience.

On a regular run in January 1891 we were pounding along the new Great Northern cutoff from Havre toward Great Falls, Mont. It was a murky afternoon, and the temperature was falling. There was enough snow on the ground to make the prairie blend with the sky, and there wasn't any break in the expanse save for a few protruding bluffs along the edge of the "Little Rockies."

Then the snow began and the thermometer plummeted past zero. The engineer knew that standing still more than a minute would freeze our train to the tracks. The snow wasn't deep, but the wind that came with it piled it up a foot thick with a surface so hard that a herd of buffalo could have passed without leaving a mark.

About 25 miles north of Fort Benton, we headed into a shallow cut and suddenly bore down on a herd of beef cattle, tails to the wind, seeking shelter from the bitter cold. Our engineer, knowing that he didn't dare stop, highballed into them with the throttle wide. Cattle piled up on the track like boulders before a bulldozer. We came to a stuttering standstill.

The bark of the baggageman's rifle and the mail clerk's .45 brought a lot of questions a few minutes later from the customers in the dining car, where I was performing my duty as head steward. "We wouldn't be attacked by Indians in this kind of weather," I assured a nervous Easterner.

A tall cowboy at another table rubbed his chin and grinned. "Nice weather for cattle-huntin', eh, steward?" He'd guessed what had happened and knew that the wounded critters were being put out of their misery. I'd guessed it too, but my business was to reassure my guests — and to start immediate conservation of food supplies.

THAT was the beginning of a sitting spell on the plains of Montana that lasted just two days short of two weeks. The train froze to the track immediately. The temperature went down to somewhat between 30 and 40 below. We began to have fun.

Fortunately, we were not handicapped in those days with all the modern equipment that must have worked such a hardship on the *City of San Francisco.* When night came, we lit only alternate lamps to conserve oil. Our fireman banked his fire to save coal, and the steam pressure was allowed to fall to only what was needed to heat the train. A little coal goes a long way for that purpose. With the train warm, we could shovel snow into water tanks and coolers and it would melt.

The passengers were well and in high spirits the entire 12 days. There were no complaints that I can remember. There was plenty of good whisky and fine brandy in the shiny mahogany buffet car, and a plentiful supply of the world's best beef lay in handy cold storage around our engine. By the third day, we were serving directly from a storage box almost as big as all outdoors. I've often suspected that those choice steaks served without charge had something to do with the Great Northern's enviable reputation for fine dining service ever since.

THE first gray morning dawned with saltlike snow still falling. We could have walked away easily enough if there had been any place to walk to, or any way to keep from freezing. But nobody tried it.

A telegrapher from the baggage car had gone up a pole with climbers, rigged a portable key and detailed our plight to the dispatcher, and in the morning he began transmitting private messages, charging a rate left to the conscience and financial ability of the sender. A New York broker gave him a tip of $25 to send 10 words to his wife. He sent over a hundred words to the husband of a mother and small daughter and refused 50 cents.

We rationed our food (we likely carried considerably more than did the *City of San Francisco*), and thanks to the supply of fresh meat and to a little milk from a shivering cow that had dropped a late fall calf, we suffered no serious food shortage.

Maybe you think we didn't have fun? Our evening routine was something like this:

From 5 to 7:30 we served dinner to our passengers. At 7:45 we stacked the tables in one end of the car, arranged the chairs in rows, and a vaudeville troupe en route to San Francisco gave a show — with a full change of program each evening — to the most appreciative audience I've ever seen. The show broke up about 11; we piled the chairs with the tables and danced to the accompaniment of the same generous entertainers. We served well-aged liquor that would be the envy of any railroad today, and there was no cover charge.

When warming weather and a wrecker finally broke us into motion again, we had perfected plans to burn suet and gristle from the dead cattle along with ties chopped from the roadbed. But we could have gone a few more days without that. Remember the axe and shovel kit that we used to carry in each car? We were certainly glad we had them!

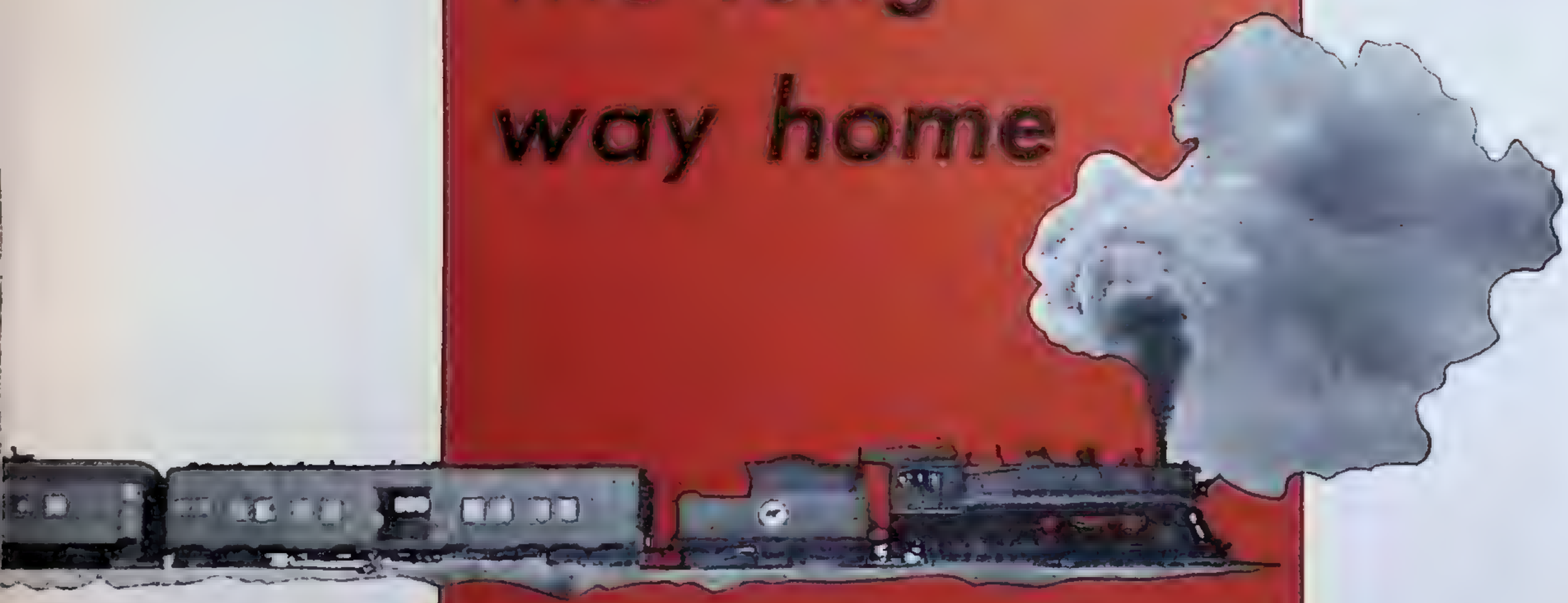
In the time we were marooned, we were never without plentiful water, light and heat. That's how modern and safe railroading was 60 years ago — and you must forgive me for boasting like this — but every member of our crew *did* feel a justifiable pride in the way we were able to care for everybody. And it still sort of indicates that railroads are sacrificing something besides the whistle when they give up steam.

There is one big advantage nowadays, though, in the matter of the steward keeping his suit in good condition, what with cash drawers and folding money. The gold coins of those days were always so heavy in my coat pockets that I never really could keep my regulation blue uniform in proper shape.

Gene Baxter.

The first touch of winter has blanketed the Delaware & Hudson's ties and freight cars at Watervliet, N. Y., with a soft mantle of snow. The scene is quiet and restful — no doubt a relief for the commuters just home from Albany.

The long way home



Ride with an inveterate rail traveler as he forsakes speed for new experience and travels New York to Chicago on nine roads

BY A. C. KALMBACH

PHOTOS BY THE AUTHOR

COME and ride with me over railroads of the last frontier where trains are still the people's transportation; where more than 700 miles of line serve only 232,000 total population and yet passenger trains are 15 cars long and the sleepers are sold out top and bottom. Join me in a trek through the last stronghold of the steam locomotive — ride 1100 miles over three railroads without ever seeing a diesel. See one of the most tranquilly beautiful and long-settled river valleys in America and then travel through land so wild the railroad carries a man's canoe as normal baggage. And, mind you, do all this on a routing from New York to Chicago!

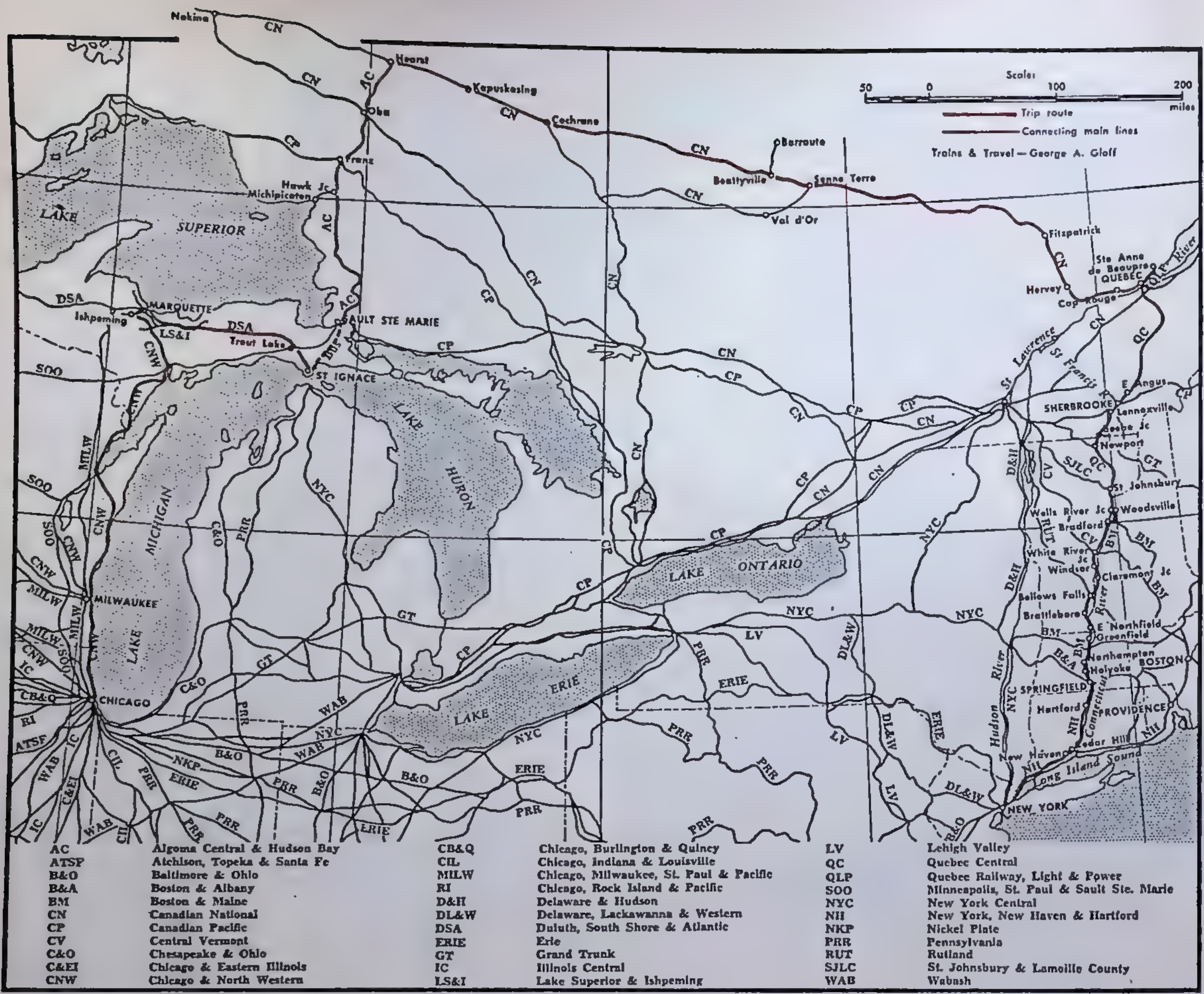
Of course, as my hometown ticket sellers know, I'm likely to route myself to New York via the Southern's Rat Hole Division or via the Lake Erie & Northern and the Toronto, Hamilton & Buffalo's branch through Brantford. As Editor Andy Anderson says, "If there's a more roundabout route, you'll find it." And so, last month after going to New York in a medium hurry on the *Erie Limited,* I took my time coming home a new and thoroughly delightful "short" route.

If you don't mind taking 5½ days and riding 2047 miles on nine railroads and a few on a bus line — if you can enjoy anything on rails from one of the slickest streamliners to plush-seated coaches full of the chatter of French-Canadian lumberjacks and redolent with the aroma of chewing tobacco — then join me in Grand Central Terminal as I start east over the New Haven toward Chicago.

MY first train was posted as the 9:30 a.m. *Day White Mountains.* A few tracks away the *Empire State Express* had just pulled out with more prosaically minded passengers who believe in heading west to go west; and I'll venture that I was the only person headed for Chicago getting on the *Day White Mountains.* I asked for the coach to Wells River, Vt., which was as far as I was going on this train, and settled down amid traveling salesmen and other businessmen heading toward the New England manufacturing towns, some insurance men going to Hartford, and other normal passengers of the workaday, matter-of-fact New Haven. My ticket, however, read New Haven to Springfield, Mass.; Boston & Maine to Windsor, Vt.; Central Vermont to White River Junction; Boston & Maine to Woodsville, N. H.; Canadian Pacific to Newport, Vt.; Quebec Central to Quebec; Canadian National to Hearst, Ont.; and Algoma Central & Hudson Bay to Sault Ste. Marie. From there I was going to make a short jump by bus and buy the rest of my ticket (Chicago & North Western to Milwaukee) at St. Ignace, Mich.

Those brewster green streamlined New Haven coaches are really slick. The design is efficient; they have space to seat a maximum number of passengers, and yet are adequately comfortable for the short New England runs. Instead of a separate smoking room at the end of the car, a portion of the coach is simply partitioned off and fitted with separate lounge chairs facing toward the aisle. This gives an

Canadian National train No. 111 comes over the CNR's northernmost transcontinental line to this railroad-built town of Cochrane, Ont. It starts out of Quebec as No. 21, a train that would do credit to any main line, but is divided at Senne Terre into Cochrane and Toronto sections. Here at Cochrane the CNR connects with the Ontario Northland. Passengers continuing west must transfer to the ONT train from Toronto, which becomes a CNR train from Cochrane to Hearst. These roads serve country that obviously is sparsely settled but which supports an amazing commerce, and which, in turn, requires considerable passenger service.



unusual impression of spaciousness and comfort, and yet I counted up the lounge chairs and found that the smoking portion of the car seats only two less people than it would if it were fitted with regular double seats.

By the time I had done this mental arithmetic, our electric locomotive had accelerated us out of the station and through the Park Avenue tunnel, and I was blinking in the sunlight of Harlem. We passed many of the New York Central's famous overnight fleet, some inbound toward Grand Central, some backing out toward the coach yards at Mott Haven.

The *Day White Mountains* wasted no time getting about its business, and it didn't even stop between New York and New Haven. It wasn't long before we were flitting past suburban stations with tan board shelters on the platforms. The houses got farther apart and the television aerials got taller and taller. Motorboats dotted the sky-colored surface of the inlets along Long Island Sound, and out on the Sound itself sails were occasionally silhouetted against the sea. In sharp contrast to the trim blue and tan decor of the car and the Fifth Avenue look of many of the passengers, an old derelict wandered through the coaches clutching a legal envelope full of papers. I wondered whether he's one of those men with hidden riches who will die worth a couple of million dollars — a millionaire whom nobody suspects of having more than a few dollars at a time.

The waiter, calling breakfast through the train, also sang out a wise precaution to remember in any crowded coach: "Take your seat check with you into the diner." We swung around 70-mile-an-hour curves through ancient cuts blasted from the solid New England granite or lined with heavy masonry of that same granite. Brick-red wooden maintenance-of-way cars were parked here and there in the small station freight yards. Occasionally I saw one of the New Haven's heavy steeple-cab electric switchers. The train butcher called my attention back to the inside of the coach with his "Buy something now, you'll need it later. It's a long ride."

Electric motive power really has surprising performance. Our long train accelerated out of some of the drawbridge slowdowns with a whole powerhouse to draw upon. Now, before I hardly knew it, we were slowing down for the station at New Haven. The *Day White Mountains* had traveled 72.3 miles in 82 minutes and over plenty of curves. The derelict got off, still carrying his envelope of legal papers. Some of the salesmen got off too. Fact is, the train seemed to be emptying out. *Maybe there'll be room to swing a seat around and occupy a double,* I thought — but no, the car soon filled up again. We had even more passengers north of New Haven.

While the crew was working the baggage and mail, my eye came to rest on some of the trolley wire for the adjacent mainline tracks and the yard tracks. It was bright green and it suddenly occurred to me that that had been a New Haven characteristic

all the way up the shore. Out in my part of the country, trolley wire turns the color of a worn penny. Apparently the salt air of the East really does things to it.

It wasn't far beyond the last buildings of New Haven that the Shore Line to Providence and Boston left us toward the right. It had no trolley wires, but our track still had the 11,000-volt overhead for the benefit of freight trains heading to huge Cedar Hill Yard, which sprawled across the landscape to the east. A bright diesel freight locomotive was coming up from an underpass track which carried one of the freight routes under our track without benefit of diamonds or interlocking. The roundhouse, from which once spouted smoke from dozens of Mikados and Mountain-type engines being readied for the commercial traffic of New England, now stood vacant, but flanked by rows of diesel and electric locomotives. As we swung around a curve, I saw that my own train now had a diesel.

New England cities are surprisingly close together, and in a matter of minutes we were running alongside long red-brick mill buildings lining a stream on which there was a waterfall; we passed the gilt-domed state capitol with its bright smooth lawns extending right down to the tracks, then came to a stop next to the stone masonry Hartford station with wrought iron brackets holding the platform roof. Here even more people got on and off the train, and the head-end cars got a truly intensive working over.

Not far beyond the retarder yard at the north edge of Hartford I caught my first glimpse of New England's great river, the broad Connecticut, smooth as a mirror, with thick trees lining its banks. On this trip I was to follow the Connecticut nearly to the Canadian border, watching the setting change from an old valley with a wide level floor into the valley of a young river with rocks and rapids and waterfalls. Now, between the train and the river, I could see the old canal, its small stone locks nearly hidden in the shrubbery. Above the locks the backwaters of the now-idle canal were still. Now I began to see the typical New England mill towns, each with its colony of company houses and long red-brick buildings facing narrow winding streets. Outside each town was an ancient, well-populated cemetery.

The train practically emptied out at Springfield, but again a new group of passengers climbed on. The train backed out of the station and some people across the aisle, apparently confused by this backup maneuver, tried to turn their seats around. They asked the conductor if it was O.K. and he told them, "You'll be riding backwards, but it's O.K. by me if you want to ride that way."

As we backed out of the station, I could see some New Haven trailer flat cars parked near a freight house, a reminder of the New Haven's philosophy that it's better to make a special rate and carry the semitrailers than to maintain the rate structure but let the trucks get 100 per cent of the revenue. Here in the coach yards the tuscan red of the Maine Central and the Boston & Maine for the first time started to outnumber the brewster green of the New Haven. Yet this New Haven coach I was riding was to go on straight through to the White Mountains. Apparently this joint service up the Connecticut Valley is worked on an equalized mileage basis, each railroad supplying car miles in proportion to the mileage of track which it owns.

As we continued northward up the Connecticut Valley, now on Boston & Maine rails, we passed through one New England city after another—Holyoke, with its long curving lines of uniform red-brick mills lining the river and the dam with its big lake dotted with boats; Northampton, with the Connecticut a sedate meandering river, its mirror reflecting increasingly high hills; and Greenfield, with its beautiful old elm trees, about the largest I have ever seen.

But you know me. I was most anxious to see the railroad junctions. On this trip I crossed many routes which radiate out from Boston like spokes of a wheel. At Springfield it was the Boston & Albany, whose tracks we turned onto momentarily at the station. At Greenfield it was the Hoosac Tunnel main line of the Boston & Maine. We crossed it on an overhead bridge and then swung briefly onto one of its tracks just east of the passenger station. At Bellows Falls it was another Boston & Maine line which joins there with the Rutland for a through Montreal route. At White River Junction it was still another Boston & Maine line, this one joining with the Canadian National for another Montreal route. At Wells River and Woodsville it was the Boston & Maine-Canadian Pacific Montreal route.

In between were other interesting junctions: East Northfield, where a Central Vermont freight train with a steam locomotive waited on the adjacent track. Brattleboro, with an old wooden Central Vermont roundhouse near the truss bridge and a 2-10-4 with steam up. Claremont Junction, where an ancient Boston & Maine Mogul sat on the other side of the wye with its open-platform local train.

The three principal junctions of the Montreal routes of course stole the show, particularly White River Junction, where we waited while the Montreal train pulled in behind a red B&M diesel and transferred head-end traffic and passengers. As that train crossed the Connecticut River bridge east of the station, my own conductor came through and said to me, "If you want to take a good picture, they cut the diesel off that Montreal train here and put on a steam engine. You could catch him leaving up at the west end

The Boston & Maine's local to Concord, N. H., pulls away from the station platform at Claremont Junction and disappears into the New England potpourri of wondrously green scenery.

A crowd typical of those found all over New England and on into Canada waits on the platform at White River Junction, Vt., for the train to Montreal, which is backing in at left.

of the wye. Don't worry, we won't leave until a few minutes later, and I'll watch for you before I get going."

I was admiring the birch trees across the river, reflected in the smooth water behind a dam, when a whistle up front startled me. It sounded practically like an old-time interurban air horn, and on the next curve I checked the front end. We had lost our streamlined locomotive, apparently while I was occupied at White River Junction, and now we had a GP-7 road-switcher. The train itself had shrunk at each succeeding junction until now it was hardly more than a four-car local. At Bradford we slowed down to meet a southbound Canadian Pacific diesel freight, and the gray and maroon locomotive reminded me that this is part of a joint freight operation with the Canadian road. Motive power is run right through ["International Dieselization," May 1950 TRAINS].

Instead of stopping at Wells River, which is the name I had always heard, the train skirted around the south end of the Wells River wye and crossed the Connecticut River into Woodsville, N. H. It was a busy station indeed at that time of day. Not only my train was there, but a Boston & Maine motor train was coming in from the east and the Barre & Chelsea mixed train was ready to leave for the west over the onetime Montpelier & Wells River. Indeed, all over New England the railroads run a frequency of train service which is unheard of out in the West. Up the Connecticut River Valley we had passed train after train headed south. Our own train had always been busy; and just before meeting a train in the opposite direction, I noticed the platforms were always crowded.

It was almost 6 o'clock now and there was time to get a good meal and some sleep before the 3:10 a. m. train left for Quebec via the Quebec Central. That train also came through from New York. But you know me. I'd rather ride in the daytime if I can, and so I split my journey here at this quiet little junction town. The conductor recommended Hale's Tavern, back across the river in Wells River and conveniently close to the station from which I was to leave in the morning.

I took advantage of the little daylight that was left before dinner to walk up around the station and survey the setup. Particularly, I wanted to look at the highball signal. I had seen the old-fashioned highball signals also at Bellows Falls and White River Junction. I found that actually the balls aren't spherical at all but merely two circular sheet metal discs fitted together at right angles!

Hale's Tavern put out a good evening meal and I was shortly sawing wood. Sleep came naturally, believe me, after all the jumping on and off the train I had done at the stops on the line. Even so, 2:30 came mighty early and I hadn't even had time to get started on a good Technicolor dream about the broad Connecticut before the buzzer was going off like a klaxon and I was over on the station platform, shivering in the early morning mist and blinking at the glare of the Mazda lights.

The Canadian Pacific crewmen had already registered and they were hard at it talking French when a Boston & Maine diesel led a train of two milk cars, a mail car, an express, two coaches and three Pullmans into the station. This B&M locomotive worked right straight through to Montreal. The Canadian Pacific and the B&M use their diesels in this through service on an equalized mileage basis just as they use the coaches.

A news butcher who had been arguing with the train crew next to the hissing steam radiator in the hot station now climbed onto the train, but how he was going to do much business, I couldn't guess. Practically everybody in the two coaches was sound asleep under the blue night lights. I found a brakeman in one of the rear seats and lost no time starting to question him about whether the steam engines were run through over both the Boston & Maine and the Canadian Pacific back before the days of the diesel — and here I got a real surprise. His reply: "I dunno. I'm not old enough to remember the days of the steam engine."

The call of "St. Johnsbury next station" brought thoughts of the much-photographed short line, the St. Johnsbury & Lamoille County (formerly St. Johnsbury & Lake Champlain), and while the road engine was cutting off the two milk cars, I wandered around to the far side of our train and found the StJ&LC caboose and coach ready for the short line's early morning run.

Dawn was beginning to lighten the eastern sky when we came into the wye at the lakeside station in Newport, Vt., where the Canadian Pacific is joined by its affiliate, the Quebec Central. Here I had to change trains. The train I had been on was bound for Montreal, and after it was worked, it took the wye track westward from the station along the shore of the lake, while a gas-electric car and one trailer coach backed across the bridge ready to load passengers and mail for Sherbrooke and other points in south-central Quebec up toward the city of Quebec.

Now we were really in French country. As I watched sawmills, piles of pulpwood, rivers and hills out of

the window, I heard French inside the coach. At Beebe Junction the customs officer and the immigration men started down the car. Their initial question was always asked in English, but from then on the conversation was in French — until they got to me.

Now there were more covered bridges and mist in the valley, more evergreens across the hills, more French inside the coach. We skirted beautiful Lake Massawippi and (over the rails of Canadian National's Portland-Montreal line) pulled into Lennoxville station, where the train board is lettered only in French, and then into Sherbrooke, which is the metropolis of this area.

This city of somewhat more than 50,000 people is not only the distributing center for lower Quebec but has diverse manufacturing establishments including textiles, machinery, iron and steel. It is the center of operations for the Quebec Central Railroad and is also served by the Canadian National and the Canadian Pacific. The gas-electric I arrived on terminated here and the train for Quebec, half hidden in the morning fog outside, was headed by a CP-ish Pacific and included not only modern coaches but a combination parlor car and diner.

As we rolled north along the St. Francis River, I noticed for the first time the French-style farms, one acre wide and a mile deep, an inheritance from feudal times. The big Brompton Pulp & Paper Company mill at East Angus is one of the good customers of the railroad, although a lot of its pulpwood comes down the river. I saw a storage pile of 10,000 or 15,000 cords of wood in the mill yard and then, for more than two miles upstream, the river was covered with floating pulpwood, creating sort of a moist herringbone tweed effect. A traffic man for the railroad told me that some pulpwood is hauled into the East Angus mill all the way from New Brunswick, while at the same time some pulpwood cut in this vicinity is hauled eastward to paper mills in New Brunswick. This cross-haul is the result of reciprocal buying and of course the railroad doesn't object. An even stranger bit of pulpwood traffic is the Maine pulpwood hauled through Canada from Lac Frontiere, 218 miles over the Quebec Central through Vallee Jonction and Sherbrooke and into the United States again at Newport, Vt. Actually the routing through Canada isn't as roundabout as it seems because the twists of the international border, together with the ups and downs of the topography, make this the quickest way to get from one point to another in Maine.

In the high country around Thetford Mines I came across one of the principal sources of Quebec Central traffic — a big hole in the ground. If the track hadn't been well laid, we'd have fallen right in! What's mined here is asbestos — 80 per cent of the world's supply — and half of it goes out over the Quebec Central.

The most evident mine is a big open pit right smack across the tracks from the railroad station in Thetford Mines. Other mines are shaft operations underground, and head houses are visible here and there all through the territory, as are large piles of waste from the mining operations.

Four miles south of Thetford Mines, at Black Lake, I saw a beautiful gem of a lake far down in the valley to the left of the train. Here, I learned, a new asbestos mine is being tunneled out right beneath the surface of the lake itself. Asbestos, of course, is a mineral fiber useful in fireproofing, insulating and in such special products as brake lining. It is classified according to the length of the natural fiber and, unlike most minerals, it

Soupy early morning fog or not, this Quebec Central train will soon leave Sherbrooke, Que., and continue its journey northward to the city of Quebec, northern terminus of the road. The Quebec Central connects with the Canadian Pacific at Newport, Vt. Engine is a CP-ish Pacific.

The Canadian National's train from Quebec gets a thorough going-over at Senne Terre, Que. Its diner is taken off and the cars are split into two trains — one for Toronto, one for Cochrane.

The northern transcontinental line of the Canadian National seems to traverse a barren

goes out of here in box cars instead of gondolas or hoppers.

All through this French country of Quebec the churches are prominent and it is always the church spire which signals the approach of each new station stop. The houses and even some of the barns and other farm buildings have red, green or bright yellow roofs, red chimneys and brilliant trim. More and more, English speech is the exception rather than the rule. And after we crossed the big Quebec bridge and pulled into Palais Station in Quebec I went to a little lunchroom for something to eat. I was so surprised when the waitress spoke English to me right off, that I had a sudden thought that she must be a foreigner!

I arrived in Quebec not long after noon and the Canadian National train for Hearst didn't leave until 7:30 in the evening, from the same station. So, I checked my luggage and went about unencumbered to see something of this most unusual old city. Tourist activity centers around the Chateau Frontenac. Here you can walk along the heights on Dufferin Terrace, looking far out across the St. Lawrence River or down into the old French town below. Here you can find the wax museum or one of Quebec's famous *calèches* or horse-drawn buggies, a sightseeing bus or the elevator down to the old French town.

Near here, too, I understand, are excellent restaurants, but I decided to skip the pleasure of eating in exchange for the novelty of riding an electric interurban line, the Quebec Power & Light Company, out to St. Anne. The four-car 5:15 was jammed with commuters, and since the wide cars seat three people on each side of the aisle, each car was handling 108 passengers seated — a big load by any means of transportation. The train ran within a few feet of 274-foot Montmorency Falls, higher than Niagara and one of the undoubted scenic attractions of the Quebec area. I wasn't the only foreigner up here riding the interurban for the fun of it, I noticed; there were some camera bugs up at the front end in St. Anne!

The interurban station is stub-end and practically right across the street from Palais Station. That was lucky, because I had figured my connection close and I had just enough time for a ham sandwich and a cup of coffee before running to No. 21, which was posted on the last track of the concourse. Sleeping car No. 15 was smack on the rear end. It was sold out top and bottom, including four or five families of children, each of which was somehow going to crowd into a single section. So, while the porter was busy making up berths and the aisle was full of kids, I got out on the back platform and watched the lights of the city down below as the train climbed up the long grade to the top of the Quebec cliffs and then across the mile-long viaduct near Cap Rouge. Then to bed.

Next morning when I woke up, we were really on the last frontier. The train had grown to 15 cars while I slept, most of them picked up from a Montreal train at Hervey. We were moving sedately along practically straight track through what looked like an endless forest — "brush," they call it up here. There was hardly a sign of man and his works except now and then a small lumber mill with all the workers popping their heads out of the windows and watching the train with 5-year-old bewonderment in their eyes. Here was a work train replacing rail; there, a siding with a way freight in the clear; once in a while a lake or a small stream, but mostly just continuous wood. How beautiful is a single tree standing alone in a rolling field!

Still, this is busy country for the railroad, amazingly busy. The 15 cars on my train attested to it. Two daily passenger trains in each direction run over this section of the line, and Assistant Superintendent Robithaille at Senne Terre told me later in the day that the two trains out of Fitzpatrick the day before had 1100 passengers.

What's more, the country is growing. Senne Terre station had billings of

land, but the number of persons who show up at train time is phenomenal. This is La Sarre, Que.

This trim little Ten-Wheeler is about ready to leave Cochrane with the Ontario Northland's evening train to Toronto. The weather vane on the depot is a replica of a steam locomotive.

$81,000 in June a year ago, $201,000 in June of this year. The business at Val d'Or (Golden Valley) runs $300,000 a month all year around, mostly zinc, copper concentrates, and pyrites for sulphur. The passenger trains often unload as much as 6000 pounds of express at a single small-town station.

The population right on the railroad is very sparse and even the tributary population is not much more than sparse. In the whole 900 miles of the Cochrane Division, from Fitzpatrick to Nakina, the on-line population is 82,750 and the total population served is only 232,000. The little so-called towns I was going through seemed more like lumber camps, with not more than half a dozen frame buildings each; and even Senne Terre, the important junction and division point where I arrived in the middle of the morning, has a population of only 2350 with a total of 2735 people in the town and vicinity served by the railroad.

But the population certainly doesn't indicate the tremendous activity at Senne Terre station. My train had hardly arrived before a switch engine was attacking it at the rear and cutting out the diner. Another engine went to work from the front end and gradually our 15 cars were assembled into two trains, one to go on a more southerly route through the Rouyn mining area toward Toronto and the other to go

The people of Senne Terre and vicinity are typical of those who inhabit the northland, and they are always very much in the picture when trains are being switched there on the CNR.

west along the transcontinental route to Cochrane.

The Senne Terre station and office building had burned down a year or so before and hadn't yet been rebuilt. However, right near where my sleeping car came to a stop, there was an old coach serving as office, and here I found Assistant Superintendent Robithaille. He asked me not to look at the station, please, but to consider the beautiful new station which would shortly be built. He went on to tell about all the business that the railroad does in this rapidly growing country. He pointed with pride to the doubling of billings in the last year at this very station, and he told about a new 40-mile branch built north into the brush just for pulpwood. It already was hauling out 150,000 cords of wood in the first year.

It's lonesome country, though. Robithaille is from Quebec, but as he said, "Somebody's got to work up here in the North Country." His wife was just back from a visit to Quebec; frequent visiting of this sort helps to break the monotony of this lonesome country. It also helps to make traffic for the railroad and explains why, at towns of only a couple hundred population, 50 or 60 people will often get on and off the trains.

It also explains why practically the entire local population often comes to the station at train time. The coaches, in fact, are a family affair, probably much the same as they were in our own United States a couple of generations ago. One third of the Pullman passengers are the padres, another evidence of both the French ancestry of the population and the importance of the church in the Quebec community life.

Boots and wool shirts are the rule for the men. The women — well, you can count the women in the whole train on the fingers of one hand. Now and then a lumberjack will plod up the aisle, his boots removed and his thick wool socks plop-plopping on the floor. One very French lumberjack engaged me in conversation shortly after leaving Senne Terre. He spoke only French, I spoke only English; but after 15 minutes or so, it became clear that he wanted his picture taken. I obliged at the next station stop. His name, he managed to get across was Paul La Briacque.

Amos, where a horse-drawn rig met the train to pick up the mail, is practically a metropolis, with a local population of 5200 and serving a total territory of 17,610 population. This used to be the jumping-off point for the Rouyn mining area, which is now served by its own line of railroad. Amos is also quite a center for lumbering and for the commercial life of this part of the country.

Now the country became more open, with farms and occasionally even a highway. The train was still behind steam power and still on the northern transcontinental line, the direct route from Quebec to Winnipeg. This whole line was built some 45 years ago as the National Transcontinental and was taken over by the Canadian National in the early 1920's. West of Nakina the through transcontinental trains use this route, but here it is still a local railroad, primarily important in developing the country.

Develop it does. Against the five mines now in production at Val d'Or, 11 are in development and 39 are more than good prospects. Some towns like Val d'Or are practically brand new. Val d'Or was built in 1937 when the railroad came in from Senne Terre. Other towns are having their fastest growth right now. The total earnings of the Cochrane Division are roughly five times what they were in 1934, and since 1945, earnings of individual stations have been going up generally from 30 to 70 per cent.

Now, even though the train was getting into Ontario, I could still notice the French-Canadian influence. The French followed the lumbering industry over into northern Ontario; and this is still predominately lumbering territory. In fact, that night I came to the best-earning station on this whole division — Kapuskasing, where the Spruce Falls Power & Paper mill is located. It makes principally newsprint (for the New York *Times*) and tissue. The station there, which han-

Surprisingly near Chicago and many other major U. S. rail terminals is some of the wildest country in central North America. Here, only about 130 miles north of Sault Ste. Marie, passengers standing on the rear of Algoma Central & Hudson Bay's southbound passenger train get this view of Agawa Canyon, an extremely deep gorge in solid granite, and of a work train that has been working on a new bridge in the mountain slot.

dles as much as 700 tons of newsprint a day, earned 6½ million dollars gross revenues in 1950, up 50 per cent from 1945.

But before we got to Kapuskasing, we stopped at the division headquarters, Cochrane. Here the Canadian National crosses the Ontario Northland, which is owned by the Goverment of Ontario. Instead of the Quebec train continuing beyond this point, a Toronto train comes up on the Ontario Northland, crosses over onto the Canadian National here and runs through Kapuskasing into Hearst. Because it is a joint train, it includes rolling stock of both the Canadian National and the Ontario Northland.

On the day I was there, the joint train was pulled into Cochrane by the neatest, trimmest, most beautifully proportioned little Ten-Wheeler I've ever seen, and out of Cochrane to the west it went behind a Canadian National 4-6-2, similar to the one which had pulled my train from Senne Terre. This brought home to me the fact that since Sherbrooke at 6:30 the preceding morning, I hadn't seen anything but steam locomotives. Coal for this far-north railroad comes in from the United States by Great Lakes steamship to Michipicoten Harbor on Lake Superior and thence to Hearst via the Algoma Central & Hudson Bay.

I had dinner in the grandly named Parisienne Cafe at Cochrane while waiting for the joint train to arrive. The dispatcher told me that the train was a half hour late, and that gave me plenty of time both to eat and to talk with Master Mechanic Joe Oshami, who also showed me the lake right in the center of Cochrane. It was far into evening when I arrived in Hearst and climbed into a bunk at the Hotel Waverly, another grandly named establishment which hardly describes the plain little two-story building that I found.

At 6:30 the next morning I was trudging across the open fields from the Hotel Waverly to the Canadian National station, which is also used by the Algoma Central. A Ten-Wheeler was backing two coaches and an old Army troop car, converted to baggage, up to the platform. The Canadian National-Ontario Northland train for Cochrane and Quebec had just left and the platform was littered with baggage and express and mail characteristic of the North Country. Perhaps most characteristic of all was a bright green canoe. "Oh," said the baggage man, "a man is just as likely to check his canoe as his suitcase, up here."

I boarded the Algoma Central train to Sault Ste. Marie. Bill, the cook and major domo of the short buffet section in the front end of the ex-Rio Grande coach, put some breakfast out and introduced me to Edgar Moore, a traveling freight and passenger agent for the Algoma Central. He in turn introduced Lloyd McConnel and Vic St. Amand, two pulpwood production executives for Spruce Falls. That's the fun of traveling by train in this North Country. There are no blasé travelers. Everybody's friendly, everybody's a human being. I hadn't talked long with the pulpwood men before I found out that they are in charge of cutting some of the very pulpwood from which Trains & Travel's paper is made. I kidded them about paper pulp shortages; and Vic St. Amand, with a perfectly straight face and never a sidewise glance at Ed Moore, told me, "If you can't get paper, don't blame it on the shortage of pulpwood. Blame it on the fact that the Algoma Central can't furnish us cars enough!"

This northern end of the Algoma Central is still very definitely in the brush country. We passed timber camp after timber camp and for 25 miles we followed along the shores of Oba Lake, crossing and recrossing narrow necks of the lake on fills. The new camp of the Newaygo Timber Company at Mile 217 had been only muskeg in the spring. The first men had had to come in on snowshoes to keep from sinking, and all the gravel fill had to come in by rail. Now it was already producing pulpwood, but not too much this first year, 1950. In 1951 it will be a heavy traffic producer for the Algoma Central.

The train crossed the main lines from Toronto of both the Canadian National and the Canadian Pacific at Oba and Franz respectively. Both are busy junction points with quite a bit

The country the Algoma Central & Hudson Bay serves is best characterized by the contents of the baggage car on one of its trains — canoes, outboard motors and camping gear for tourists and North Country men, supplies for mere existence in areas where the railroad is the only means of transportation. At left is the interior of the car, a rebuilt troop sleeper; at right the car is being unloaded at Sault Ste. Marie.

If you were to lean out of the vestibule of Algoma Central & Hudson Bay No. 2, look rearwards and down, this is what you would see (left) — the Montreal River, a long, high steel trestle, and a power dam constructed integral with the bridge. Spectacular Agawa Canyon (right) is the most breathtaking spot on the entire railroad. It is carved deep into the granitic wilderness east of Lake Superior and north of the Soo.

of transfer from one railroad to another. Good connections are made for both Toronto and Winnipeg, and since the Canadian Pacific has its own line from the east into Sault Ste. Marie, quite a bit of freight is moved by the competitive route of the Algoma Central at Oba and then the Canadian National to the east.

Gradually the lumber men and the pulpwood men dropped off the train and their places were taken by tourists. At Hawk Junction we met the branch line train from Michipicoten Harbor on Lake Michigan. Here, too, was a freight yard well filled with a lot besides pulpwood — steel shapes from the Soo; ore from the Helen mine at Jamestown on the branch; coal from the lake ships at Michipicoten Harbor; paper; merchandise; ties from a local tie plant. I also saw diesel fuel tanks and rail storage for a project of replacing track with heavier rail. Leaving the Junction I saw that our train had grown to seven cars.

The express in and off the train was perhaps the best study of the countryside. Here was an upholstered chair crated and wrapped against possible bad weather; several boxes of iced fish; crate after crate of blueberries; a child's wagon and sled; a kitchen table; a huge cast-iron gear; the corpse of a two-year-old child (quick discussion and consultation of tariffs to confirm that a child's corpse is full fare); a case of underwear; two bicycles; three more canoes; case after case of Mason jars; milk cans; empty bread boxes returning to a Sault Ste. Marie bakery; piles of fishing tackle boxes belonging to returning tourists; a dozen assorted outboard motors; mounds of tents.

Now at Milepost 174 we passed the first diesel I had seen since leaving Newport, Vt. It was a general purpose 1500-horsepower job and the railroad people told me proudly that in a few more months the Algoma Central would be practically all diesel-operated. We were now dipping into some of the wildest country in central North America and along the eastern edge of Lake Superior we followed thousand-foot-deep gorges, carved into the solid granite. We circled along the edges of high cliffs and crossed the long high steel bridge above the dam of the Montreal River. While all this was going on, I asked questions and learned that the Algoma Central is British-owned but the directors are all Canadian. It is not true, as rumored, that the railroad stops its trains anywhere to pick up fishermen; nor is it true, as I have been told, that you have to be accompanied by a licensed guide or have a guide's license in order to buy a ticket to an intermediate station. The country isn't that wild, but it is still far wilder than you can possibly imagine. Here is fishing and resort country which is completely inaccessible by automobile, and when we arrived in Sault Ste. Marie the long rows of cars parked next to the station attested to the number of people who leave their automobiles and take the train into the wilderness. The huge Algoma Steel Corporation plant near the tracks in the Soo also attested to one of the primary traffic sources of the road.

APPROXIMATELY 190,000 bridges are used to carry U. S. railroads a total of 3750 miles across water and over grade separations. The longest bridge in the country is the 12-mile pile trestle which forms part of the Lucin Cutoff, by means of which Southern Pacific trains cross Great Salt Lake instead of going around it. The trestle was completed in 1903, under the Edward H. Harriman regime.

The Huey P. Long Bridge across the Mississippi above New Orleans is the longest railway-highway bridge of steel and concrete construction in the United States. Including approaches, it is 4.4 miles in length. It is used by Southern Pacific, Missouri Pacific, and Texas & Pacific trains.

It was with a feeling of real regret that I left the Algoma Central and the North Country and headed for the ferry which took me across the St. Marys River and back into the United States. The dock is only about three blocks from the station and on the other side it is only a couple of blocks to the Greyhound bus depot. From the ferry I could see the rapids and the locks plus five ore-carrying steamships.

The 7:10 bus for St. Ignace was an easy connection and it got me over to the terminal town of the Duluth South Shore & Atlantic on the Straits of Mackinac in time for a good night's sleep and a westbound train the next morning. I could have waited until the next afternoon and taken the Soo Line-Milwaukee Road sleeper direct to Milwaukee or Chicago, but this would have cut out a lot of daytime riding as well as the Duluth, South Shore & Atlantic, a road which I had never ridden. I'm always anxious to cut a new notch in my *Official Guide*, aren't you?

The Travelers Hotel in St. Ignace was a quiet, comfortable place and there was plenty of time in the morning because I had gone to bed on Eastern Standard Time and the South Shore train leaves on Central Standard Time. The train arrival in St. Ignace is probably one of the most unusual train arrivals in this country, for it comes in from across the Straits via car ferry, and the head-end cars and the single reclining-seat coach are pulled off the ferry loaded and ready to go.

The South Shore took me through northern Michigan lumbering country, past Trout Lake, where it crossed the Soo Line and transferred express, on through sawmill towns, along the shore of Lake Superior, and into Marquette, where we ran parallel to the Lake Superior & Ishpeming Railroad and past the huge South Shore ore dock. Then, with a reshuffling of cars and a change from a 1500-horsepower diesel to a steam locomotive, we were off again and through heavy iron mining country into Ishpeming. We passed a new mining project where the Chicago & North Western Railway was being relocated and new yards were being built for the South Shore.

Ishpeming is an old city rather than a large one and its importance stems from the mining offices inconspicuously located in its various store buildings as well as from the fact that North Western's *Peninsula 400* originates there. For my part, I chose it as a place to change trains mostly because I'd heard of the fabulous Mather Inn, the three-story colonial hotel set back among flower gardens and lawns across the street from the joint C&NW-DSS&A station. Indeed, the Mather Inn turned out to be all that it had been talked up to be. I am told that the Cleveland Cliffs Iron Mining Company subsidized the hotel in order to be sure of a good place for its executives and customers to stay when up at Ishpeming on business. After I had had dinner in its dining room, that story indeed made sense.

I was hungry, of course, after four days without much to eat, but even hunger couldn't fully account for my feelings about this meal at the Mather Inn. The colonial dining room is decorated in impeccable taste, and the waitresses are friendly and efficient. My meal included shrimp cocktail with nine big shrimp, relishes, fruit salad, mashed potatoes, corn on the cob (extra helpings if you wanted them), a large, thick, juicy steak, fresh strawberries with cream, and coffee — and what do you suppose the tab added up to? $2.75!

All this was only a fitting prelude to a grand train ride the next morning in one of America's finest streamliners. The *Peninsula 400* has been described before in TRAINS [July 1948], so there's no need of going into detail; but certainly a restful, fast 300 miles (to Milwaukee) on this busy, profitable streamliner was a fitting climax to a trip that also included railroads of the last American frontier.

Duluth, South Shore & Atlantic No. 1 (right) pauses at Marquette, Mich., while a switcher puts together the cars for No. 7, a dinnertime train to Duluth. No. 1 runs from Mackinaw City to Calumet on the copper country peninsula; No. 7 starts from Marquette, a heavy ore-shipping port.

Henry J. McCord.

THE CARE AND FEEDING OF STEAM LOCOMOTIVES

For all its brutish appearance and massive dimensions, a steam locomotive must be pampered and given good care if it is to respond with full power. It is not true that any blacksmith with a maul can keep it in condition, even though many of its mechanical tolerances are not critical. Its fire must be kept clean if it is to draw well; a Rock Island engine crew waits (above) while a workman knocks the clinkers out of their 2-8-2 at Cedar Rapids, Ia. An engine's firebox must be frequently and regularly fed with combustible fuel if it is to generate steam; a fireman (above, right) sees to it that an 0-8-0 switching around the Virginian's yard at Norfolk, Va., is given a hearty meal. And, if an engine is to look its best, its flanks must be scrubbed periodically and it must be kept painted; a crew of wipers at Charlotte, N. C., (right) apply suds, elbow grease and a stream of water to a Southern Railway Mikado. Such internal feedings and external manicures are frequent occurrences. Less frequent but more important are the major shoppings during which the locomotive is practically dismantled and rebuilt with refinished or new parts so that it is, in many ways, a new engine. In fact, it's not unusual for a gang to "jack up the brake handle and roll a new engine under it" during a long session in the backshop.

H. Reid.

Russian

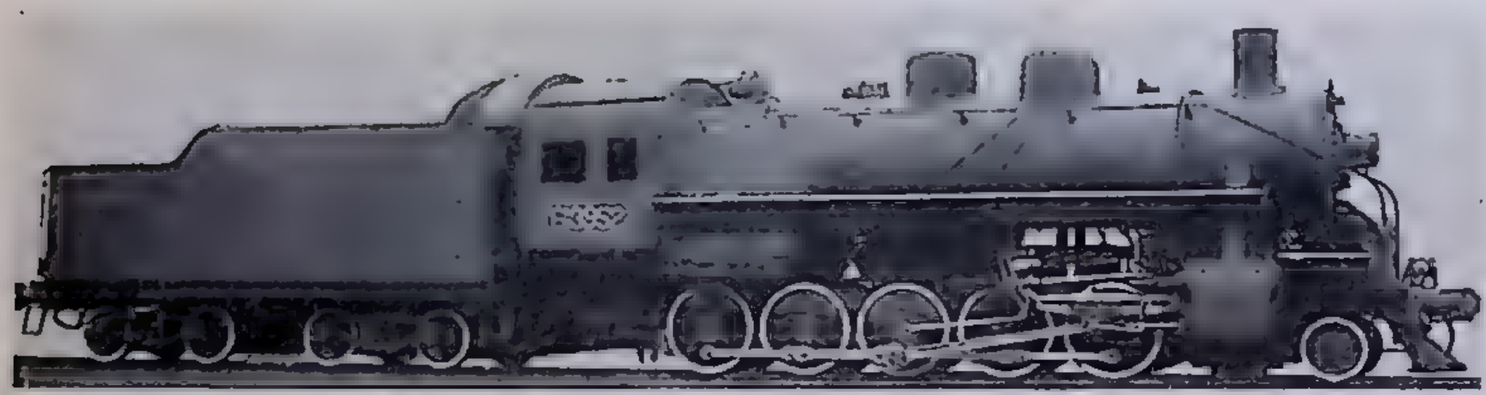
BY S. R. WOOD
AND DAVID P. MORGAN

Warren L. Bain.

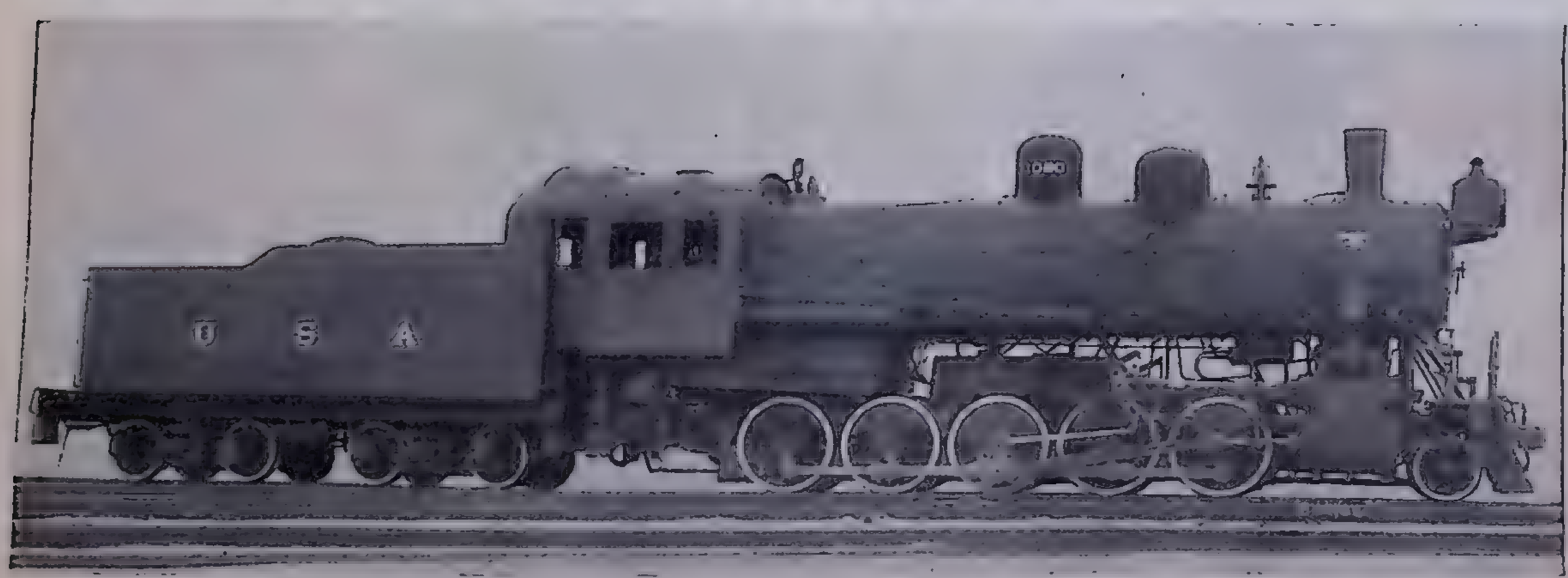
If there had been no Communist revolution, this old mill might be moving wheat in the Ukraine. Instead, the Baldwin-built 2-10-0 is No. 1106 on the roster of the Western Maryland, and is shown here picking up her caboose at Waynesboro, Pa., for a westbound extra to Hagerstown, Md.

EARLY in 1918 the United States was face to face with a chronic lack of locomotives. The need for more motive power was causing a coal shortage and preventing food ships from sailing to France with supplies for doughboys. The I.C.C. reported that all 50 stalls of the Pennsylvania Railroad's roundhouse at Altoona, Pa., were filled with engines undergoing repairs. And since the railroads had been seized by the Government and placed under the thumb of the United States Railroad Administration, Federal red tape was further stalling action.

Ex-President Theodore Roosevelt became so aroused over the situation that he endorsed a "Big Stick" policy before the Press Club in Washington. Teddy told the reporters that the Russian ambassador had consented to our having 200 2-10-0's that Russia had ordered in 1917 and 1918, but that our Government was still leisurely discussing the matter.



No. EM3952 was built by Alco in 1945 for Russia — but except for minor modifications she is a duplicate of the World War I Czarist 2-10-0.



This Alco Decapod typifies what the Russian locomotives looked like at the time they were seized by the United States Railroad Administration and standard-gauged for service here. She had 25" x 28" cylinders, 52" drivers, 180-pound boiler pressure, weighed 210,000 pounds (excluding tender), and developed 51,500 pounds tractive effort. Foreign cab and smokebox details were later discarded by most American lines using them.

Decapods

Thanks to the Communists, the Czar never got them

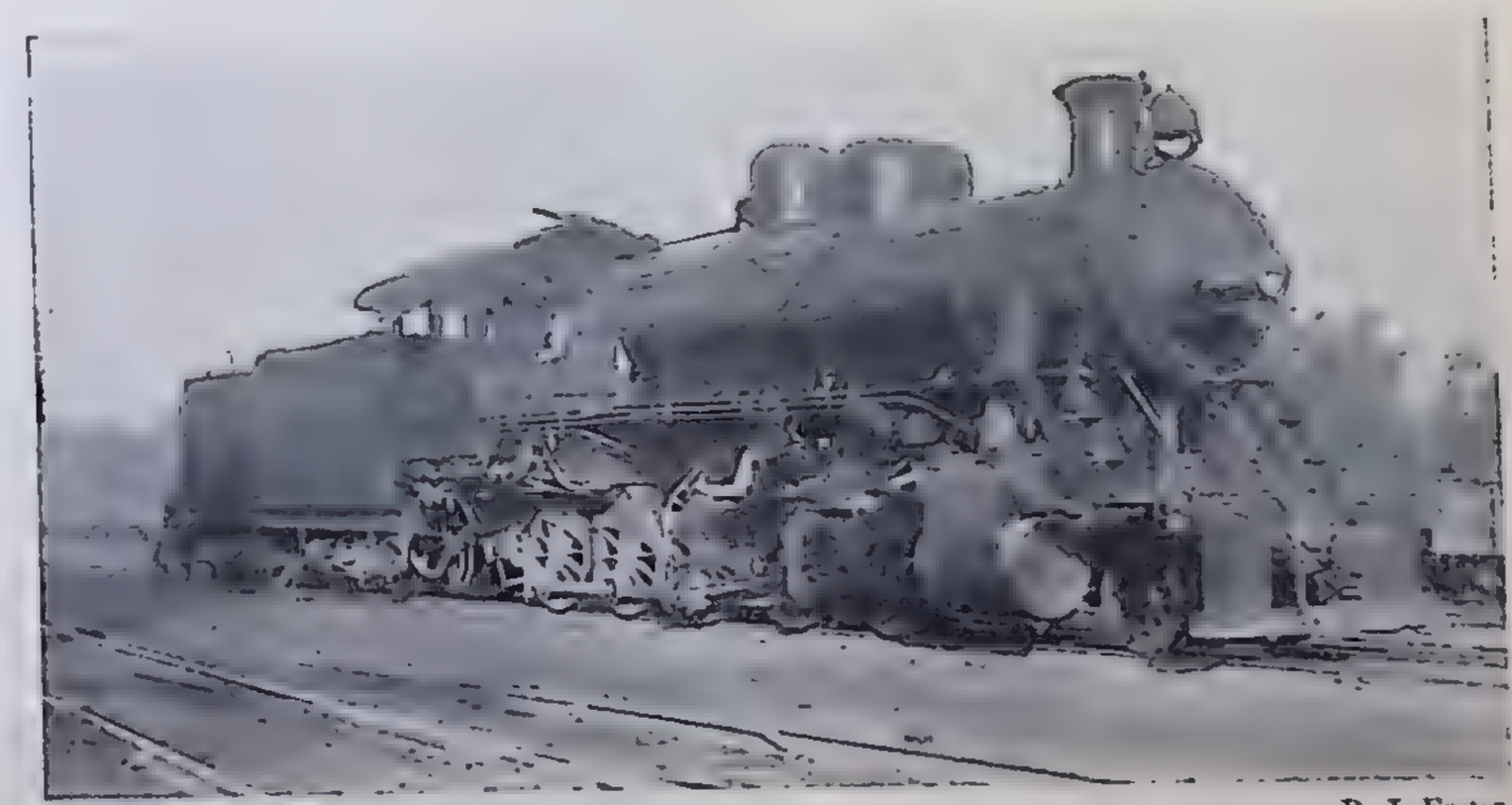
R. J. Foster.

Atlantic Coast Line acquired 10 of the Russian Decapods, its class S and series 8000-8009. No. 8007 is typical of the group. Neighbor Seaboard Air Line also received this type of locomotive, as did several other southern lines including ACL's Charleston & Western Carolina.

"What I think should have been done," thundered Teddy, "was to take the 200 locomotives and *then* discuss!"

The Czarist regime of Russia had ordered several hundred 2-10-0's from both the American and Baldwin plants for its five-foot-gauge railways. Nineteen Alcos were actually shipped. The Communist revolution (called the "political situation" here in 1918) halted overseas movement of the others, including 100 Baldwins and 112 from the Brooks Works of Alco. These engines were taken over by the U.S.R.A., and converted or changed during manufacture to our gauge.

The class 1 roads that acquired sizable numbers of the low-drivered drag locomotives included the Atlantic Coast Line; Erie; Frisco; Gulf, Mobile & Northern (now GM&O); Missouri Pacific; Nashville, Chattanooga & St. Louis; Reading; Seaboard Air Line; and Western Maryland. Though most are scrapped today, a good many of the "Russians" were at work during World War II when American builders turned out and shipped large numbers of an almost duplicate class of 2-10-0 to Russia.



R. J. Foster.

Nashville, Chattanooga & St. Louis Railway P-1 class No. 954 is the last of five Baldwin-built 2-10-0's that the Dixie Line owned. These locomotives were modified by the NC&StL by relocating the bell ahead of a new flanged stack. All these lawnmowers have since been scrapped.

U. S. Army Signal Corps, collection of E. D. Culp.

An American-built 2-10-0 of the Second World War is swung from the dock at Portland down into the hold of an overseas transport ship.

R. J. Foster.

Minneapolis, Northfield & Southern "Russian" No. 505 was originally assigned by the U.S.R.A. to the Erie as its No. 2464. MN&S purchased other secondhand Decapods of this design from the Detroit, Toledo & Ironton. Nearly all have been replaced by center-cab Baldwin diesels.

THE GOLD COAST

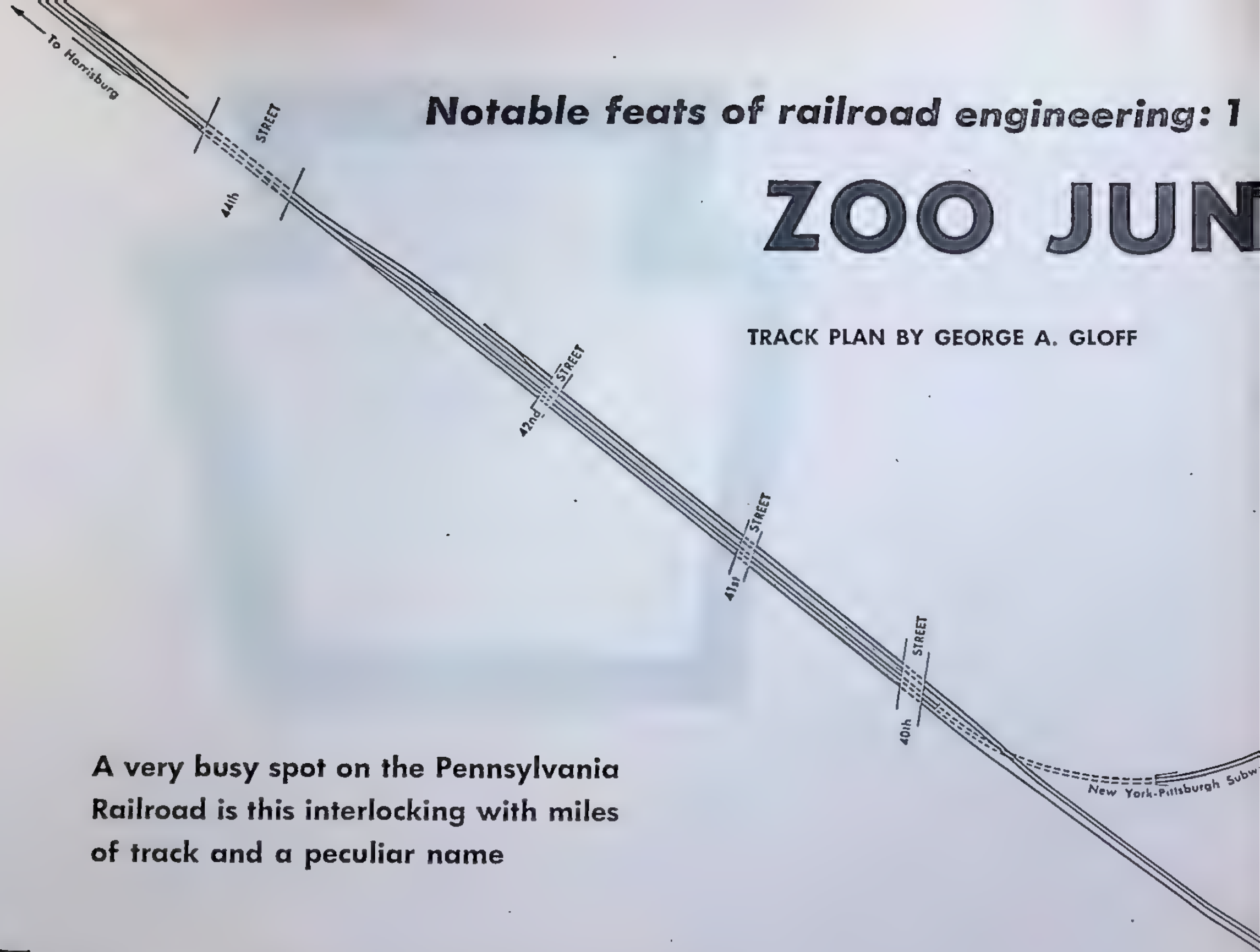
At night, when platform lights shine on a locomotive's flanks and the bulbs under its running boards illuminate the machinery that turns steam into motion, an engine becomes a giant of power, a mammoth steel beast of burden. Its hissing hulk and bespangled tail of cars wait patiently for their turn to race across the darkened hinterland. Here, in such a nocturnal atmosphere at Ogden, Utah, is the eastbound Gold Coast. This workhorse of the Overland Route comes from San Francisco over the Southern Pacific; UP handles it to Omaha, and Chicago & North Western takes it to Chicago.

Richard Steinheimer.

Notable feats of railroad engineering: 1

ZOO JUN

TRACK PLAN BY GEORGE A. GLOFF



A very busy spot on the Pennsylvania Railroad is this interlocking with miles of track and a peculiar name

THE most intriguing manifestations of our progress in highway transportation these days are the mazes of looping, diving and intersecting roadways that keep traffic apart while allowing it to merge and divert with as little confusion as possible. A modern cloverleaf is a thing to be admired. It will, if you treat it right and follow the signs, get you where you want to go with surprising ease.

While the cloverleaf would appear to be an outgrowth of the booming automobile industry, there have been adaptations of the cloverleaf principle on the Pennsylvania Railroad since the days of clincher tires and hand cranks. These railroad "cloverleafs" accomplish exactly the same purposes as do their highway counterparts.

The Pennsylvania is fond of "flying junctions" on its heavily trafficked multiple-track main line through the populous and industrialized East. The most elaborate of these is Zoo Junction in Philadelphia, where the main currents of Pennsy traffic merge. Philadelphia lies on the Pennsy's New York-Chicago main line, and is the root of its principal offshoot, the line to Wilmington, Baltimore and Washington. And there are around Zoo the numerous branches, freight lines and interchange tracks that you would expect a road the size of the Pennsy to have in a community the size of Philadelphia.

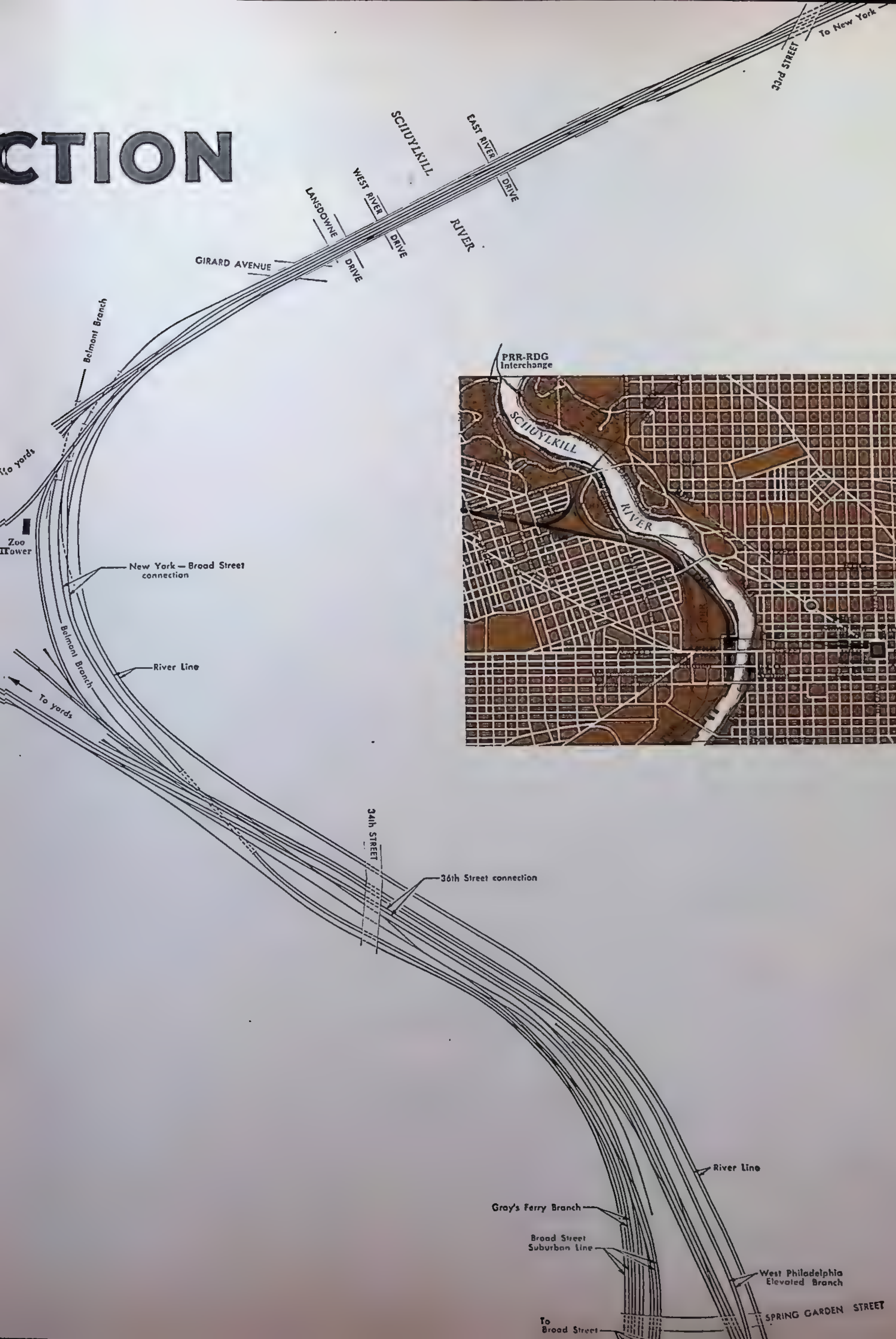
Basically, the tracks which intertwine at Zoo take the form of a wye. The northwest leg is the main line to Harrisburg, Pittsburgh and the western end of the railroad. The northeast leg is the main line to New York. The southeast leg is composed of the line to Washington and the tracks that go to Philadelphia's three stations — the suburban depot, Broad Street, and 30th Street. Down this way are also a couple of branches.

The outstanding feature of Zoo Junction, other than its obvious physical immensity, is that only occasionally do trains passing through the interlocking have to cross an opposing stream of traffic. New York-Washington trains, for instance, come down the outside track over the Schuylkill River, duck under the New York-Pittsburgh Subway and the New York-Broad Street connection, and move off unhindered down the River Line toward 30th Street Station. The major Chicago-New York trains — which do not enter Philadelphia proper, incidentally — pass under the westbound Washington-Chicago tracks with equal ease.

Zoo Junction, even as complex as it is, could not hope to accommodate all of the Pennsy's traffic, and so for through freight trains there are double-track by-passes. But Zoo still is a towerman's bad dream and a signal maintainer's nightmare. There are 71 levers on the electropneumatic interlocker for track switches, 58 for signals and electric locks, 9 "check" levers, and 7 to reverse the direction of traffic on certain tracks — 145 working levers all told. The machine can accommodate 227. Zoo is in the Pennsy's electrified district, and much of the trackwork is also equipped with cab-signal and train-control circuits. As an indication of Zoo's engineering complexity, the blueprint of its track and signal plan is 2 feet wide and 18½ feet long.

Where did the name Zoo come from? From Philadelphia's Fairmount Park Zoo, which is between the railroad and the river. While the Pennsylvania's Zoo Junction may have as many trains pass through it every day as the Fairmount Park Zoo has monkeys, nevertheless it will, if you treat it right and follow the signals, get you where you want to go with surprising ease.

CTION


To New York
33rd STREET
SCHUYLKILL
EAST RIVER
DRIVE
WEST RIVER
DRIVE
LANSDOWNE
DRIVE
RIVER
GIRARD AVENUE
Belmont Branch
Zoo
Tower
New York — Broad Street
connection
Belmont Branch
River Line
To yards
34th STREET
36th Street connection
River Line
Gray's Ferry Branch
Broad Street
Suburban Line
West Philadelphia
Elevated Branch
SPRING GARDEN STREET
To
Broad Street
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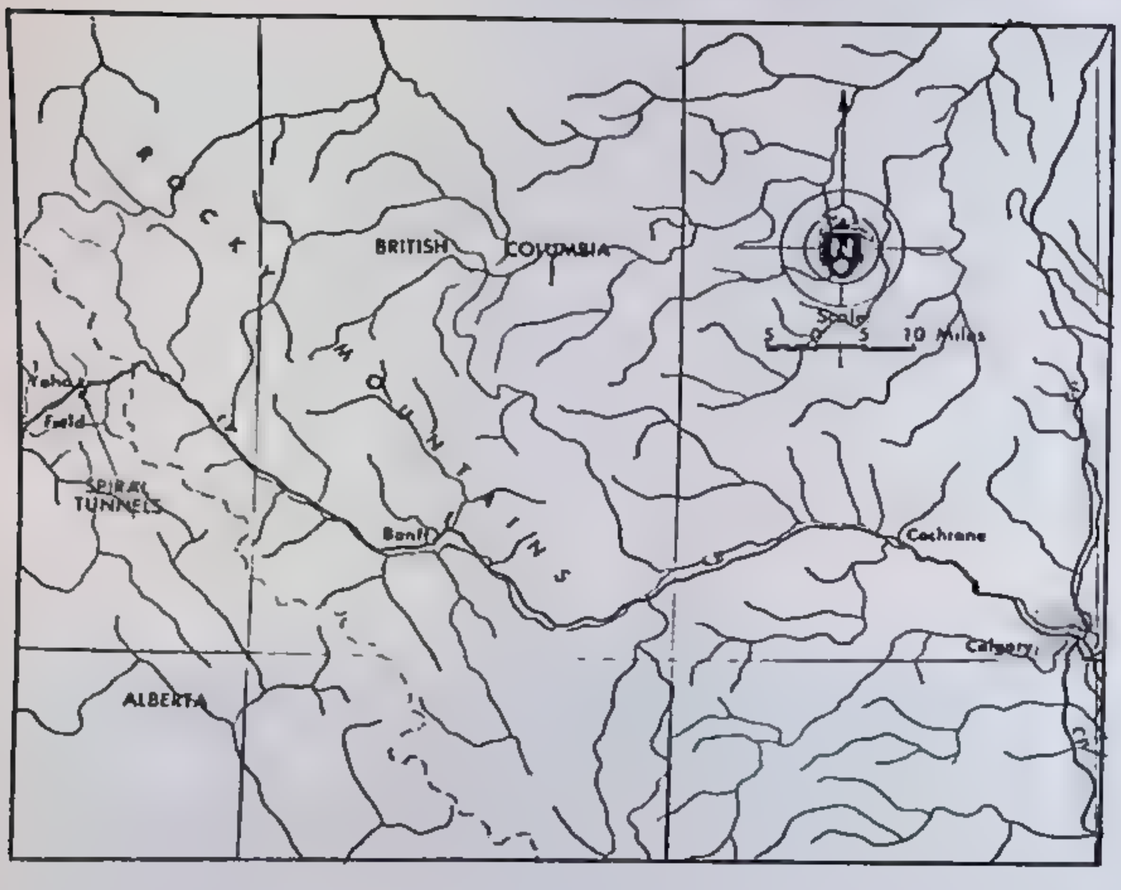


CONSIDERING that it was built across some formidable mountain ranges and through some truly uninhabited country, the main line of the Canadian Pacific Railway was finished in a remarkably short time. The contract that the Canadian Pacific signed with the government in October 1880 required that the line be finished in 10 years. But the CPR was running trains over its new line in November 1885 — five years, instead of 10, from the time that it began construction. In the year of the time limit imposed by the contract, the line earned a tidy 20 million dollars.

Such record construction could not have been done, however, without some concessions. At several points the railroad was built substantially enough to handle the

ILLUSTRATED BY GEORGE A. GLOFF

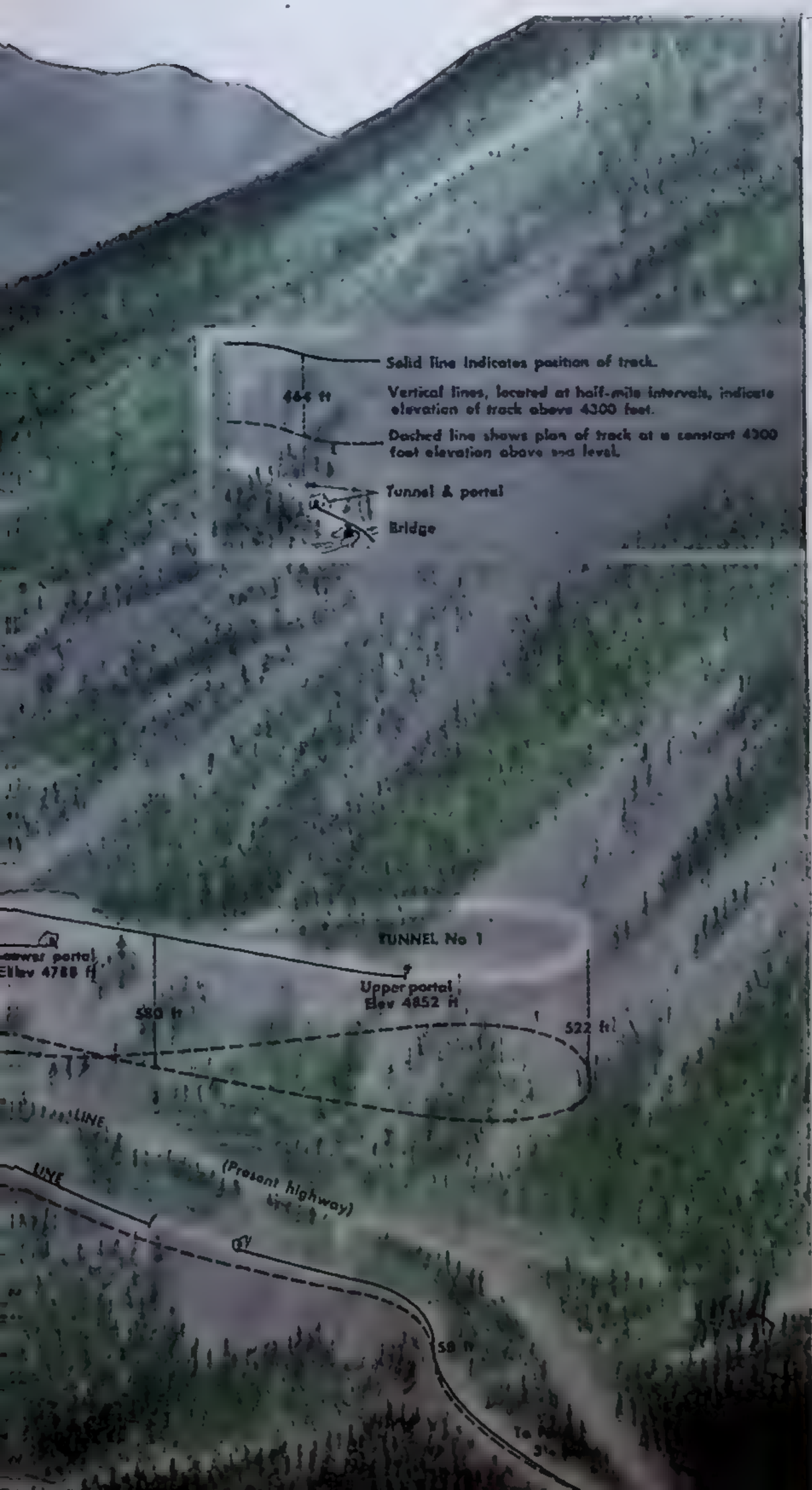
al Tunnels

light traffic of early times, but not well enough to avoid being a bottleneck in the heavy flow of trains that soon developed. By the early 1900's it was evident that something had to be done about the tonnage-killing grade in the valley of the Kicking Horse River, east of Field, B. C.

Eastbound out of Field, four of the Consolidations that were standard freight power in those days could struggle up to the 5326-foot continental divide at Stephens with a paltry 710-ton train, for the grade was 3.5 and 4 per cent — and for three miles near Hector it was 4.5 per cent. Coming downhill, trains skidded on their heels and whistled to switchtenders at three safety spurs along the Kicking Horse if they were under control. The CPR decided that a grade of 4.5 per cent was decidedly not conducive

Walter H. Thrall Jr.

The first section of No. 8, the Montreal-bound Dominion, passes over Spiral Tunnel No. 2. Shortly before this photo was made, the train was on the track in foreground, entering the tunnel into Mt. Ogden.



to efficient railroading, although in the 24 years that it was used, the big hill caused no mishap to a passenger train.

And although the CPR wanted to reduce the grade, it found that doing it was something else again. There were few other places on the glaciated walls of Kicking Horse Pass to hang a railroad. Building through Howes Pass, the next best opening in the Rockies and one that had been considered in the original planning, involved many extra miles of track. But CPR engineers came up with a solution that was unique and entirely satisfactory.

Since there was no way to build a line with less gradient *down* the Kicking Horse Valley, the CPR built, in 1908, a line *across* the valley. In effect, it was like the way an automobile highway sometimes comes down the side of a mountain, twisting in a series of hairpin turns which afford an easy descent of a steep slope. But because there was no place to build hairpin turns with the wide radius needed by a rail line, circular tunnels which doubled the track back in wide loops were dug in the valley walls.

Now, a westbound train coming down from Stephens passes Wapta Lake (the headwaters of the Kicking Horse River), crosses the Kicking Horse twice within a mile, and descends the southwest side of the valley on a much more gentle 2.2 per cent grade. It burrows into Cathedral Mountain in Spiral Tunnel No. 1, a 3255-foot bore that lowers the level of the track 48 feet underground. When it comes out into daylight again it crosses the valley — intersecting the old line at Yoho — crosses the river and disappears beneath Mt. Ogden. In 2922-foot Spiral Tunnel No. 2 it loops back on its path again — but 45 feet lower — and emerges heading down the valley. It passes through a comparatively inconsequential 180-foot tunnel before rejoining the original grade.

Such wanderings all over Kicking Horse Pass naturally added to the CPR's lineal mileage. The new line is roughly four miles longer than the old one. But that added distance reduced the maximum grade from 4.5 per cent to 2.2 per cent, and enables the CPR to operate considerably heavier trains between Calgary and Field.

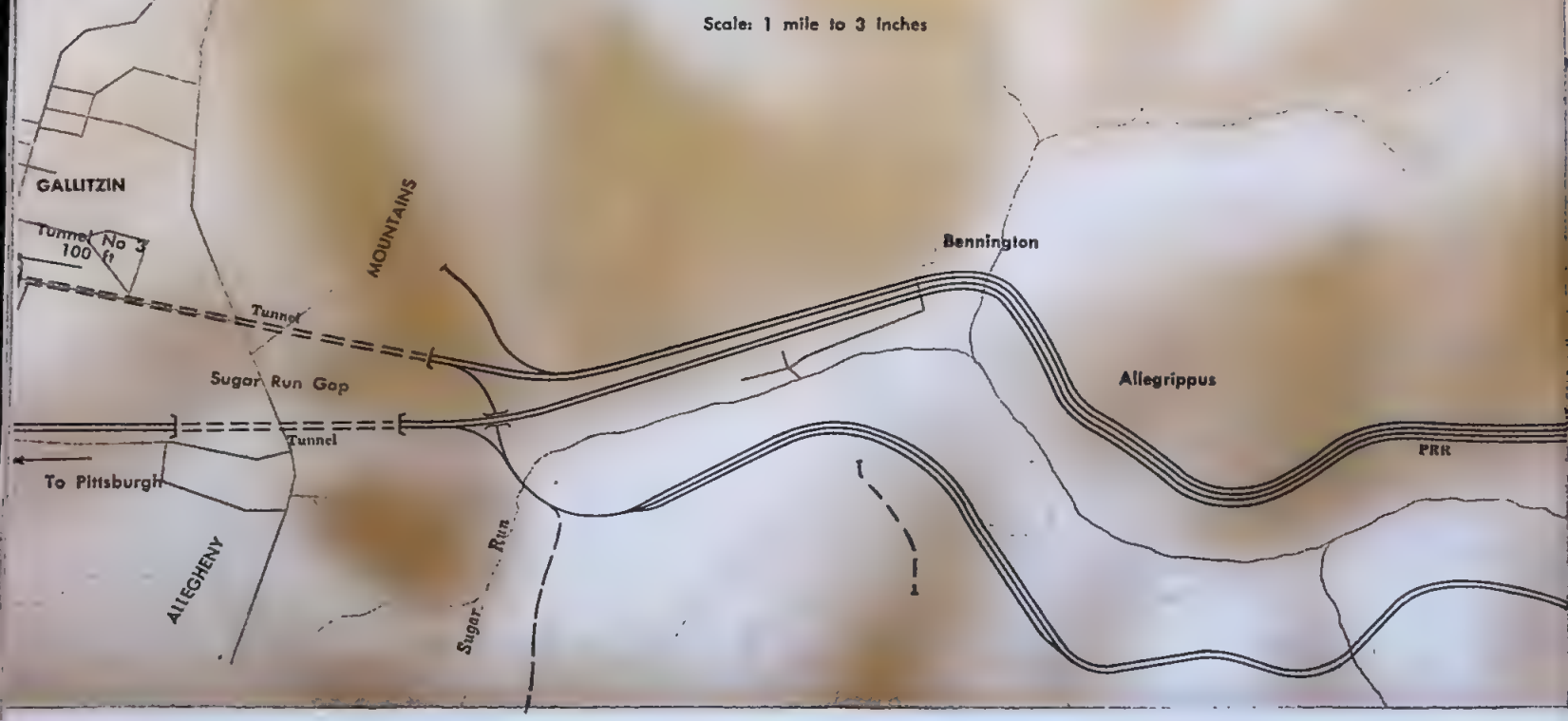
The Spiral Tunnels were built under trying conditions of midwinter weather, high altitude and constantly changing stratification of the limestone. Gangs drilled into the mountains from both ends, and met in traditional fashion — within inches of each other in both tunnels.

Notable feats of railroad engineering: 3

ILLUSTRATED BY GEORGE A. GLOFF

Horseshoe Curve

and approach to Gallitzin Tunnels



In its ascent to the summit of the Alleghenies, the Pennsylvania Railroad's heavy-duty main line rounds this, the most famous of its bends

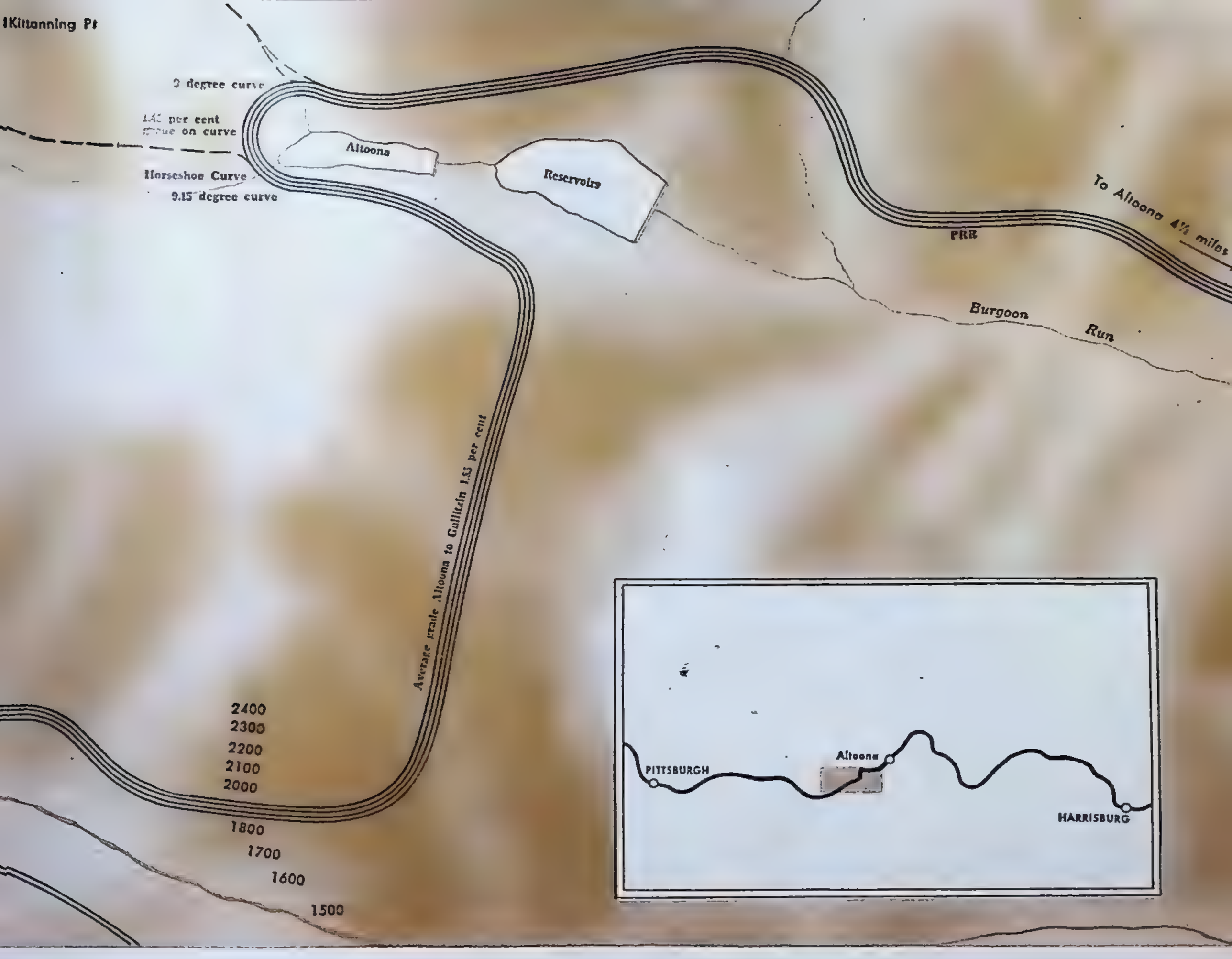
It is unfortunate that the great majority of the Pennsylvania Railroad's passenger trains cross the tremendous rocky folds of the Allegheny Mountains under the mantle of darkness, for the method by which this vast railroad climbs to the summit at Gallitzin is remarkable indeed. From the dual standpoints of railroad operation and mountain scenery, the trip on one of the trains that does cross the Allegheny range in daylight is well worth making.

Part of the Pennsy's line from Altoona, in the valley of the Little Juniata River, to the summit traverses Horseshoe Curve, whose engineering prowess is surpassed only by its value as an advertising and publicity medium for the railroad. But this most famous of all spots on the Pennsy was not built with its publicity value in mind. Its reason for being is obvious when you study the terrain: If the railroad had been constructed directly from one "calk" of the horseshoe to the other, its grade would have been 8½ per cent. As it is, the grade on the curve is 1.45 per cent.

The Pennsy started building its present Allegheny crossing in 1851 and completed it three years later. Beginning at Altoona, site of the road's largest shops, the line steadily ascends at the rate of 92.4 feet to the mile, entering the valley of Burgoon Run. At Kittanning Point, a promontory splits the valley into two smaller valleys. The Pennsy comes down the main valley, swings across the two creeks and across the face of the dividing hill, and doubles back on the opposite side of the main valley in such a way that its alignment forms the 180-degree bend known as Horseshoe Curve.

Technically, Horseshoe Curve is composed of two curves; the north side has a radius of 637 feet, while the south side has a radius of 609 feet. The ascending grade is reduced to 76.6 feet per mile to compensate for the added friction of the curve. A westbound train leaves the horseshoe some 122 feet higher than it entered.

From Horseshoe Curve, the Pennsylvania continues to climb, on a grade of 91.3 feet to the mile, to the three tunnels at Gallitzin that mark the summit of the Alleghenies. Here

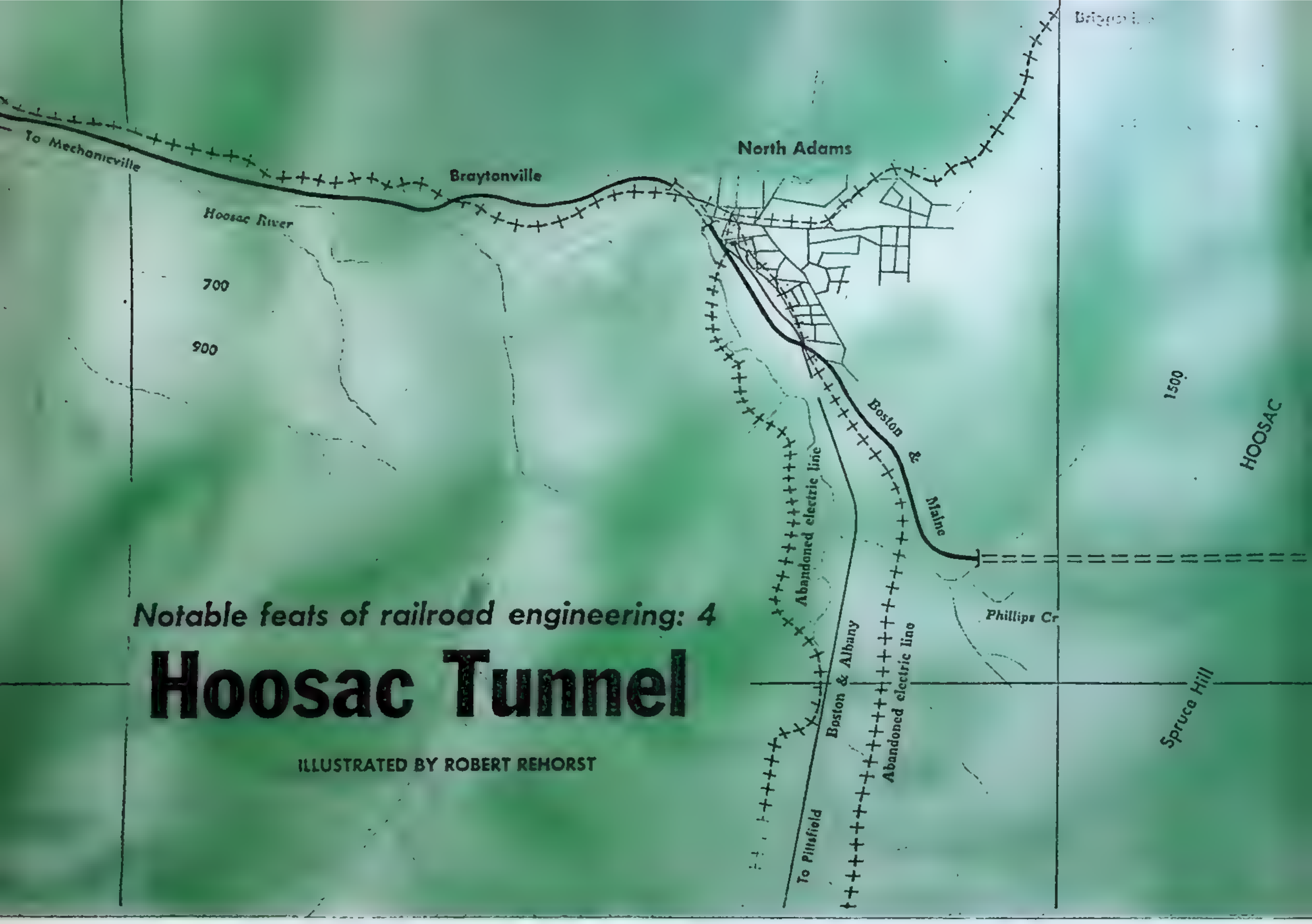


the main line joins the New Portage Branch, the original main line which now is used solely by freight trains to by-pass the congestion of Altoona's yard and terminal. The New Portage Branch has its horseshoe curve, too — the Muleshoe — but few passengers ever see it, and it is somewhat obscured by foliage.

The view of Horseshoe Curve, on the other hand, is excellent from trackside or from within the train. The valley of Burgoon Run is about 1400 feet wide; the area enclosed by the curving right of way is open and contains two reservoirs which supply Altoona with its water. Chances are, there'll be another train or two climbing past Kittanning Point or drifting down toward Altoona on the four tracks, for the Pennsylvania is always busy. The road estimates that some two million passengers and two million freight cars roll past the unused depot at Kittanning Point every year. Horseshoe Curve is vibrant with the action of a massive railroad.

Rail Photo Service: Fred McLeod.

The high mounds of the Allegheny Mountains echo the sounds of the Pennsylvania's heaviest exhausts as tonnage freights and long passenger trains fight gravity and curvature on their way up to Gallitzin. This freight is pulled by a class J-1 2-10-4 and has helpers on the rear.



Notable feats of railroad engineering: 4

Hoosac Tunnel

ILLUSTRATED BY ROBERT REHORST

This famous bore was designed to carry a canal through the mountain but was put to use on a vital division of the B&M. It was the first to be drilled with power tools

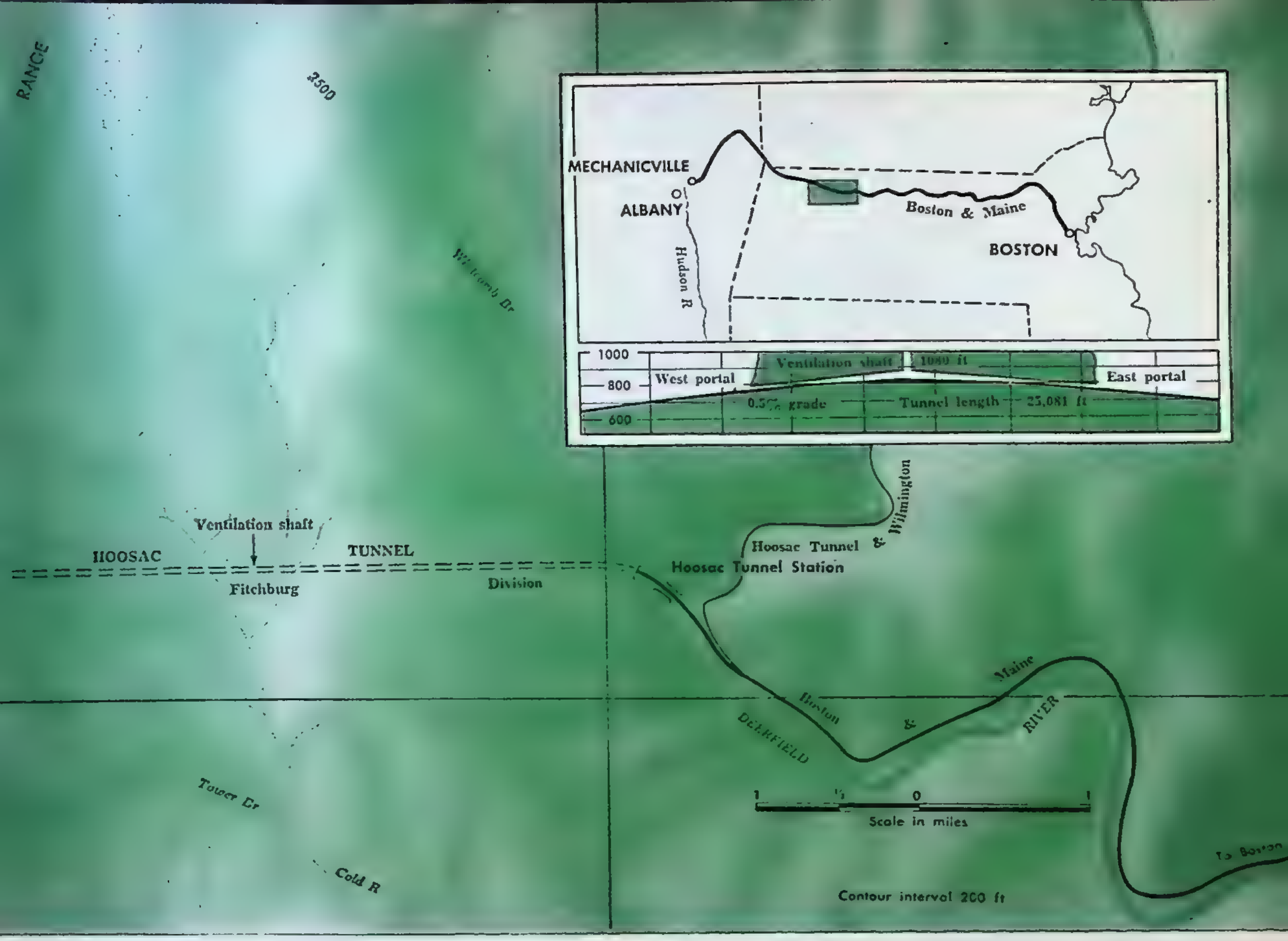
HOOSAC TUNNEL, the longest east of the Mississippi River, was not planned originally as a railroad tunnel at all. The idea of a hole through Hoosac Mountain in northwest Massachusetts cropped up about 1819 when pioneers in the field of transportation envisioned a canal between Boston and the Hudson River. To them, a canal rather than a pair of steel rails was the proper medium for the mass movement of goods and people. And the two peaks of Hoosac Mountain blocked their way.

But while the interior of the tunnel is sometimes quite wet from condensation, it never was wet enough to float canal boats. A good many years and a good many accusations of financial chicanery among the burghers of Massachusetts passed into history before the first train of the Troy & Greenfield — the railroad that first operated the tunnel — penetrated the depths of the mountain.

Today, Hoosac Tunnel is probably the greatest asset that the Boston & Maine has on its Fitchburg Division, the strand of its weblike system that reaches out to Troy and Mechanicville, N. Y., to connect with the New York Central and the Delaware & Hudson. For it means that the B&M does not have to climb nearly so high to cross the mountains of Massachusetts as does its highly competitive neighbor and cousin of the New York Central, the Boston & Albany. Hoosac Tunnel, combined with the general way the B&M does business, allows its user to haul nearly twice as much freight into and out of Boston as does the B&A.

The tunnel pierces a divide between the Deerfield and Hoosac rivers near North Adams. It was begun in 1856, was suspended amid scandalizing assertions of graft of the state's construction subsidy in 1861, and was begun again in earnest by the Shanley Brothers Company of Montreal in 1868. Its construction was typical in that crews drilled into the rock from both portals and from the foot of a ventilating shaft sunk 1028 feet down at about its center.

But because Hoosac Tunnel was the first American railroad tunnel of its magnitude, its progress was hampered at first by crude tools. Hand drills and black powder were not enough to cope with the mica slate of Hoosac Mountain with any great dispatch. It wasn't until 1867, when pneumatic drilling and nitroglycerine blasting were developed sufficiently for tunneling use,



that real progress was made. Hoosac Tunnel was the first to be drilled in the United States by these methods, which have since come to be standard for tunnel drillers.

The first train passed through the 25,081-foot tunnel on February 9, 1875. The B&M used steam power until 1911, when service through the mountain was electrified. The electric engines then towed the steam locomotives through the tunnel with their fires banked to reduce the amount of smoke and gas. The use of catenary cut down the effective size of the tunnel, so it was later enlarged.

On August 24, 1946, Hoosac Tunnel fell before the inevitable trend of dieselization. The usual reasons for replacing steam power with diesels all held on the Fitchburg Division, supplemented by another singular reason: with diesels the electrification could be — and was — dismantled.

So the pioneers in mass transportation of the early 1800's never got to paddle their boats through Hoosac Tunnel, but the Boston & Maine has since seen to it that their idea was put to good use.

N. Clifford Cottrell.

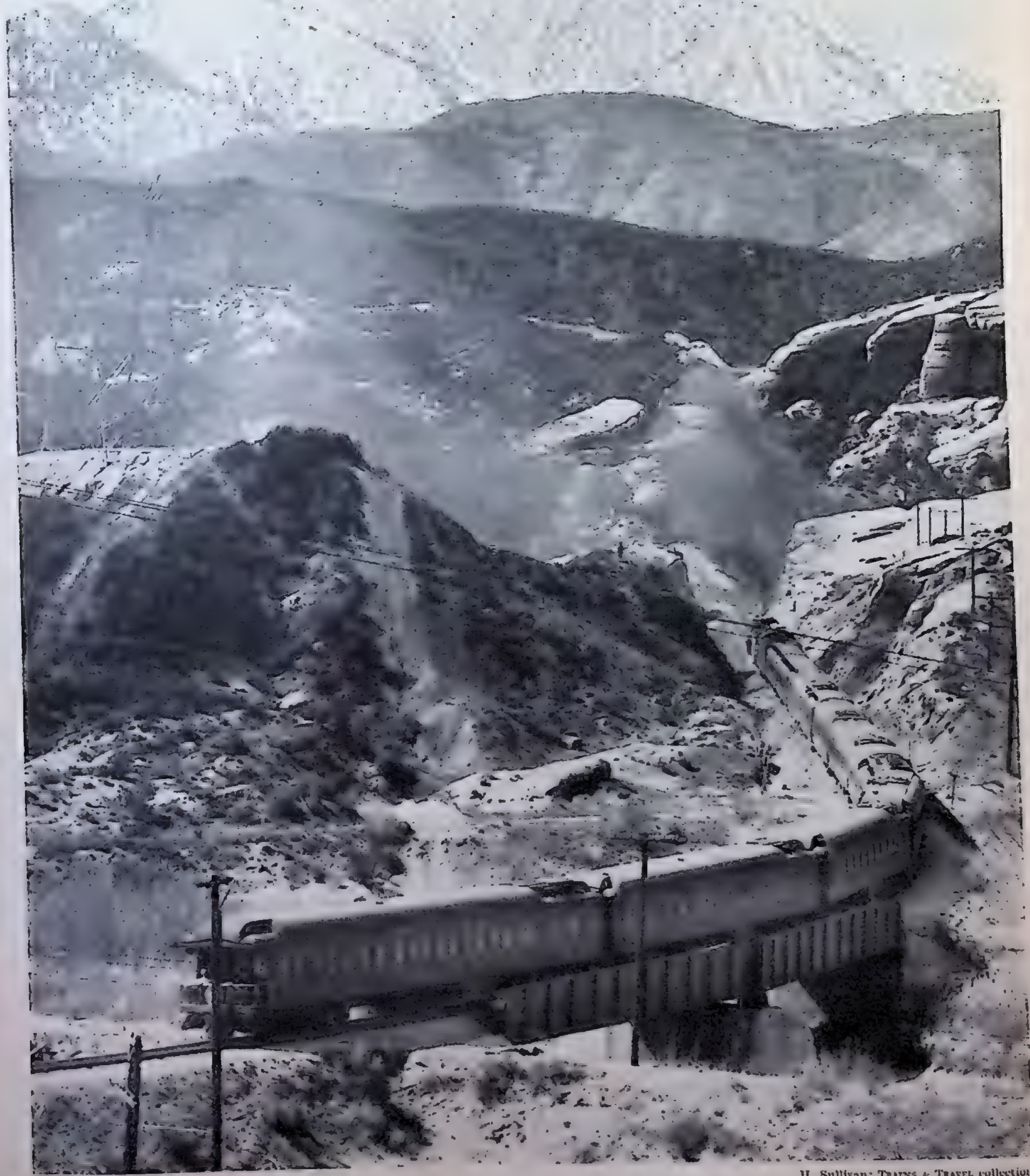
A freight disappears into the east portal of Hoosac Tunnel, above the Deerfield River near Hoosac Tunnel station. The overhead support for the tunnel's former electric power transmission is still in place, but the copper wire has long since been removed for its salvage value.

Robert J. Foster.

↗Gulf, Mobile & Ohio's class P-16b Pacific went through many modifications before reaching her prime just in time to come to grief at the hands of a growling diesel. She was Chicago & Alton No. 656, then Alton 5296. She became GM&O 5296, painted a deep red, before feeling the torch.

Henry J. McCord.

↗Minnesota's Mesabi Range, northwest of Duluth, is the nation's greatest iron-mining area. Here giant shovels dig the ore out of the earth and load it into dump cars for the trip to the dock. This Oliver Iron Mining Company 2-8-0, No. 610, is drifting off the loading incline at Virginia.



H. Sullivan: TRAINS & TRAVEL collection.

This is a picture of days that are past. If you were to walk to the rear end of the Grand Canyon today as it climbs California's Cajon Pass, you would find — not an open observation platform — but a lattice steel gate and a monkey-tail air hose. Up front, instead of a pair of laboring steam engines, you would find a diesel. Only the mountains that stand between you and the Mojave Desert wastes would be unchanged.

SHERMAN HILL

R. H. Kindig

As the diesel decade drew to a close, the world's most powerful steam locomotives still pounded the skies with their syncopated articulated exhausts as Union Pacific freight trains climbed Sherman Hill to the highest point on the line, west of Cheyenne, Wyo. No. 4023, a 4-8-8-4 "Big Boy," is climbing the eastward grade with a 95-car extra. At this point the eastward and westward tracks are separated, giving the false appearance of single track

Somewhere on every railroad there is a spot where the wheels with high flanges, worn treads, flat spots and scored journals come back for a quick round of gauges, lathes and grinders, a coating of grease on unprotected metal, and a rest on the storage tracks. On the Seaboard this spot is the storehouse at Portsmouth, Va.

TRAINS & TRAVEL: David A. Strassman.

↗Here is the fireman's scenery on the Canadian Pacific-owned Esquimalt & Nanaimo Railway as his 1000-horsepower Baldwin road-switcher climbs the mountains of Vancouver Island. CPR No. 8002 is taking the daily-except-Sunday Parksville-Port Alberni mixed over its tortuous line. This little-known branch gives the traveler a delightful view out over the Alberni Valley from the ledge which supports the railroad around the mountain's shoulder. ↓Diesels lead the old DL&W Lackawanna Limited east between Binghamton and Scranton, Pa., over Martins Creek Viaduct.

Wayne Brumbaugh.

MANILA TOWER

William P. Price.

Sometimes you can hear the articulateds coming 20 minutes before they lumber around the curve at Manila Tower. This is B&O's Cumberland-Pittsburgh line at the top of the hill at Sand Patch Tunnel. The engine is a 2-8-8-0.

Robert Hale.

California's Tehachapi Mountains are an inland barrier thrown across the Southern Pacific and Santa Fe. Here a 6000-horsepower Santa Fe diesel winds its train along the side of a ridge.

Walter H. Thrall Jr.

You know this man

OF course, you know this man. Recall as to how the *Crescent* was reported late one September evening as twilight closed in over the Carolinas — and how, only moments after a headlight glimmered to the south, her Ps-4 Pacific shook the depot and cotton mills in the glory of her swirling speed? Well, his was the face you glimpsed in dusky firelight, his the hand that gripped the whistle cord, his the eyes that compared an employee timecard with a 21-jewel Hamilton as his 4-6-2 roared through with solid sleepers in her wake.

But his breed was not peculiar to the South. If you observed a T-1 slipping to the thrust of four poppet-valved cylinders as she took the *Admiral* or *Liberty* out of Englewood, Ill., then you saw him adjusting a delicate cutoff. Surely you watched him giving a Mountain type the reins on the *Sunshine Special* through the Ozarks or leaning far out over a padded armrest to see for himself if disc drivers were getting all the sand they needed to conquer Glorieta. Jolting Ten-Wheelers double-shotted on a milk run into Rutland, high-pressure Atlantics propelling welded, lightweight speedliners, Hudsons out of Harmon: he was on the right-hand seatbox.

In the strictest limitations levied upon caption writing, this is Engineer James MacMahon of the Union Pacific's payroll aboard 4-8-2 No. 7856. His fireman made this portrait as MacMahon cracked the whip on the *Los Angeles Limited*, eastbound at 60 miles an hour near Hillgrove, Calif. But you need only glance at this photo — at the man and his machine — to be aware of its universal flavor. The notched-up reverse lever, the authoritative jaw, the cigar, the billowing sheaf of "19" orders and a clearance. They all label Mr. MacMahon as being emblematic of all men who commanded the cabs of passenger locomotives in the saga of steam. Whatever was great and splendid about the top sphere of steam power held true in equal measure for the men in whose hands it was placed. As a rule, they were sympathetic to the flexible capacity of their charges; lack of traction motor ratings and engine r.p.m. readings made it possible for them to be craftsmen, gifted in the art of urging their power beyond drawing-board limits.

Diesels have made automatic what was once the test of skill and understanding. Electric control systems and the nature of internal combustion have made the man you know — MacMahon and his brothers — legendary and heroic figures of another time. — D. P. M.

David H. Cope.

At Belt Line Junction, 2½ miles outside of Reading, Pa., a wide-firebox Reading I-9sb Consolidation waits for signals. The signal mast combines both semaphore and Hall equipment, both of which are no longer used for new installations in the U. S. Link slots of Walschaerts valve gear indicate the engine is in reverse motion, a sign that the engineer is ready to take slack as soon as he gets an interlocker come-on.

Richard J. Cook.

With a full head of steam to pipe into her belted cylinders, Nickel Plate 2-8-2 No. 500 starts out of South Lima, O., on the Sandusky way freight. No. 500 carries big footboards, the sign of an engine assigned to locals.

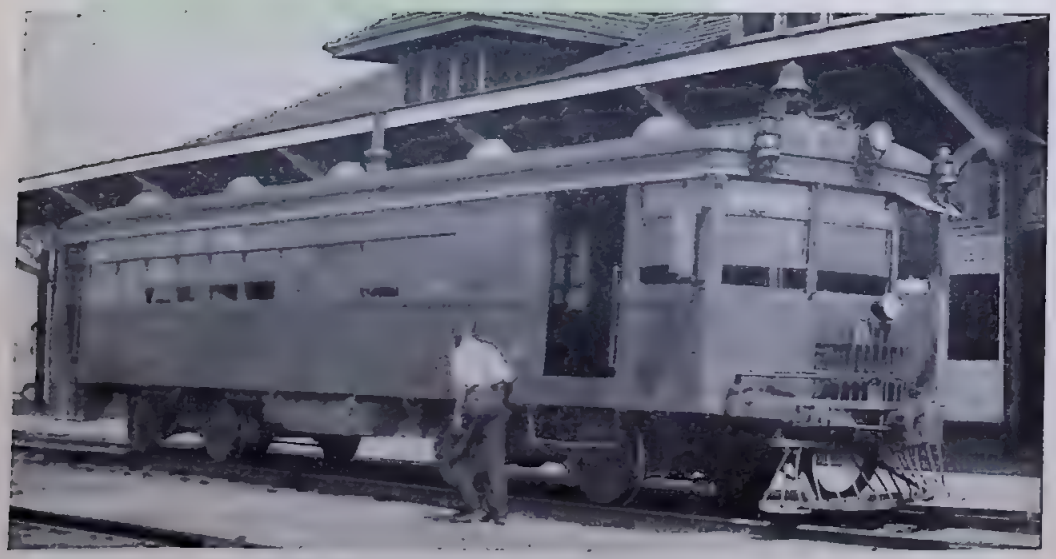
The original construction crews of the Union Pacific threw this substantial wooden trestle across Dale Creek in just 30 working days. It was about 35 miles west of Cheyenne, Wyo., and was 125 feet high, 500 feet long.

DALE CREEK'S TRESTLES

In 1876 the wooden structure over Dale Creek was replaced by this "spider web" bridge. Two diamond-stack 4-4-0's take a passenger train across while a pair of daring young men balance themselves on girders below.

This William Henry Jackson photo of the Dale Creek bridge, as strengthened in 1885, was recently featured in national Allis-Chalmers advertising. The Brooks Camelback once enjoyed a brief vogue on the UP and doubleheads here with a 2-8-0. Bridge was filled in during 1901 and line was relocated in 1917.

How the mighty have fallen! Southern Railway green-and-gold Pacific No. 1372 comes roaring up out of a dip in the SR's Washington-Atlanta main line near Richland, S. C., with local No. 39. Before diesels, the handsome Ps-4 spurned such plug schedules.



A Brill motor car of the 36-mile Albany & Northern, No. M-1200, suns itself before the expansive passenger station at Cordele, Ga., before departing on the afternoon run to Albany. A&N interchanges freight and passengers at Cordele with the Georgia, Southern & Florida, a division of the Southern.

Caboose 31 of the Charleston & Western Carolina, an affiliate of the Atlantic Coast Line, makes up for its lack of a cupola by its quiet dignity.

The 57-mile Tallulah Falls Railway, which operates from Cornelia, Ga., across the state line to Franklin, N. C., was starred along with its old 2-8-0 in the movie "I'd Climb the Highest Mountain." In "real life," though, it rolls its tonnage behind two 700-horsepower GE diesels like the 501 above.

Deep in Dixie

PHOTOS BY MIKE RUNEY

ON the joint authority of Lucius Beebe and the *Official Guide*, the South is the feudal stronghold of the short line. There a pair of thin rails weaving along through the thick grass of a pasture or beside the property line of a cotton field is the trademark of a functioning common carrier, and if one waits long enough his patience will be rewarded by the passage of a high-mounted old Pacific or a motor coach of quaint vintage or even a Shay leading log flats. Even along the rock-ballasted mains of such modern and dieselized companies as the Southern Railway, there are still a few steam locomotives around to provoke pleasant memories of the old tradition. Here is a portfolio of photographs of this pleasant land.

The westbound mixed of the Columbia, Newberry & Laurens clears Clinton, S. C., on the advertised as it nears the end of its 75-mile Columbia-Laurens run. The lanky Pacific on the business end, No. 154, is an Alco graduate that originally saw service on the Florida East Coast as a passenger oil-burner.

4th annual motive power survey

How many diesels, how soon?

BY DAVID P. MORGAN

Electro-Motive spurred the railroads past the middle milepost of dieselization. Now the carriers are on their own

ON a bright, warm Friday last June at La Grange, Ill., before some 600 civic bigwigs and railroad executives, General Motors' Electro-Motive Division played a familiar public relations role: the poor boy who made good because his talents were noted by a kind employer. The occasion was the delivery of EMD's 10,000th diesel unit; the spokesman was the late B. A. Dollens, GM's vice-president. Presenting the gold-plated control key of Wabash No. 1009 (a 2250-horsepower E-8 cab) to the road's president, he voiced an obvious truism:

"You can give an unskilled mechanic the finest tool in the world and he will not get very far with it. Give it to skilled men and you get great results."

Warming to his subject, Dollens continued, "I do not believe that the ten thousandth diesel locomotive unit ever would have been produced if the diesel's high potential for improved service and reduced costs had not been forcibly brought out by the way in which it was used by the railroads. Let us never forget that it is American railroad men who, in the final analysis, handle the diesel locomotives so as to get the most out of them for the public."

Charles H. Kerrigan.

DIESEL SERVICING TRACKS OF THE PENNSY IN CHICAGO
"We have about reached the goal . . ."

The v.p.'s remarks were apt enough for his audience and undoubtedly sincere. But in a sense what he left unsaid has far more bearing on the American locomotive story of the moment. As of August 31, 1951, the railroads had dieselized 53 per cent of gross ton-miles, 60 per cent of passenger service, and 66½ per cent of switching locomotive-hours with 16,462 units. Mr. Dollens could have almost exclusively credited Electro-Motive for this circumstance; he could have added that no other private supplier has had such an impact upon railroading since Westinghouse perfected the air brake. And with but a few qualifications, he would have been endorsed by history.

Electro-Motive did not construct the first U. S. diesel locomotive. Actually, the 300-horsepower yard engine that Ingersoll-Rand sold to the Jersey Central in 1925 is mainly no-

Robert Hale.

SECOND SECTION OF THE GRAND CANYON WEST AT FROST, CALIF.
Steam has been the buffer zone.

table because it antedates anything else in the field. Mass dieselization was born of engineering and salesmanship — and EMD was the pioneer in both departments. Sustained by the brains and cash of General Motors, EMD obtained a lightweight diesel, disciplined its power through an electric transmission, and mass-produced it on stock carbodies that could stand the shock of railroad service. Then the La Grange engineers, still grubstaked by GM, undertook the impressive sales job of convincing the railroads — an industry whose development had been synonymous with that of custom steam engines — to purchase standardized diesel units. A Missouri "show me" typified the roads' attitude in those days; as late as 1941 not a few major carriers wouldn't have a road diesel on the property. And EMD's fellows in the locomotive game aided and abetted this reluctance by building bigger and better steam power.

Last June 14 Mr. Dollens had cause to pay tribute, to be sure. The railroads had been EMD's proving grounds. And their enthusiasm had been unlimited once they were sold on dieselization. But first they had had to be sold. That was the first half of the road leading toward 100 per cent dieselization.

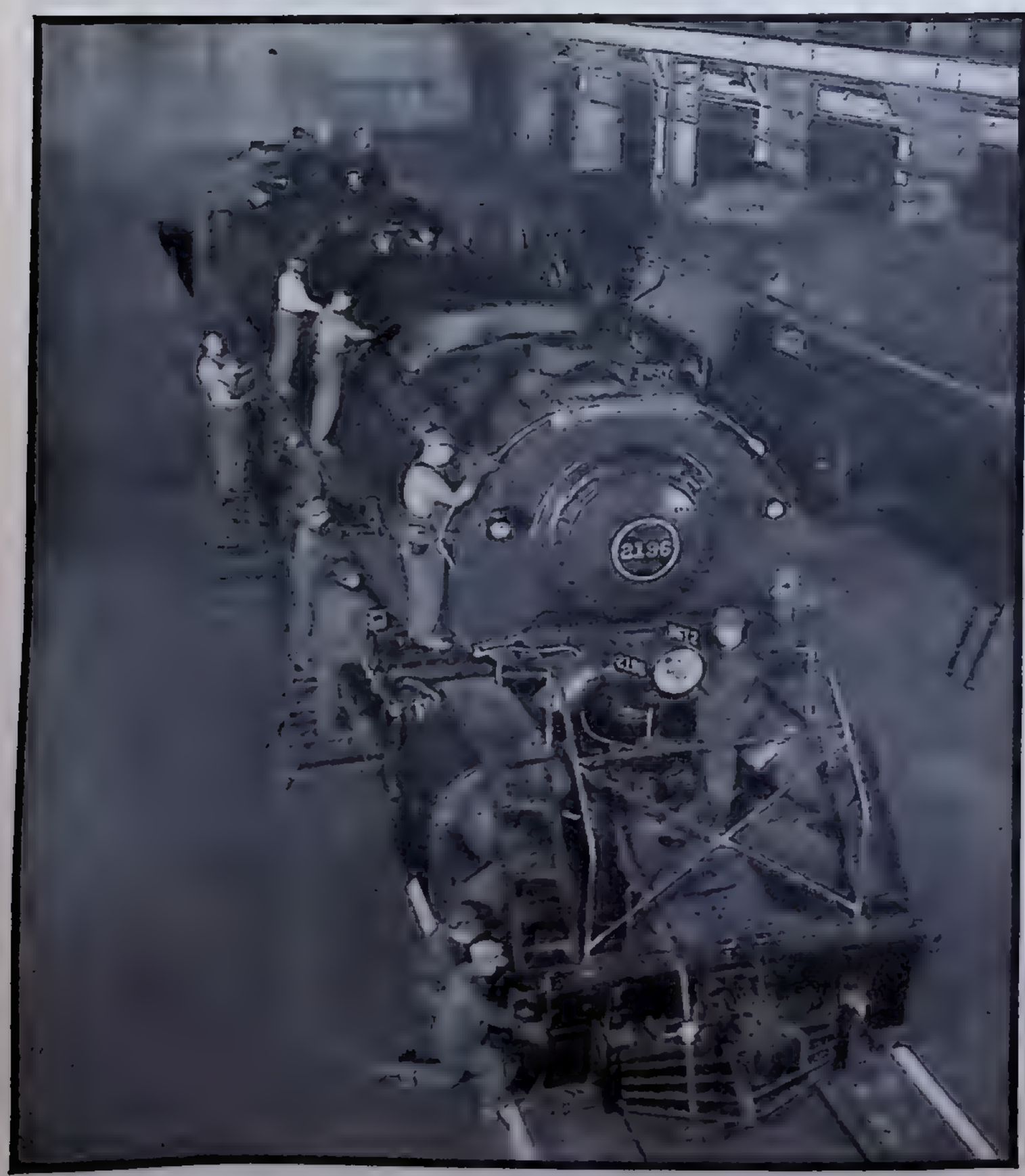
Though an automaker's offspring had done the spadework to move the railroads comfortably past the midway mark in exchanging steam for diesel, the problems of winding up the job were in the carriers' own laps. In 1951 more and more roads were asking themselves the question: how much more, how soon? Until now they have been able to install costly diesel power in either long-haul or 'round-the-clock service. In large measure, this method of obtaining a high return on an investment in diesels has been made possible by steam locomotives. Steam has been the buffer zone, handling the one-trick and low-mileage shifts — staying in storage when traffic was low and returning to duty when carloadings picked up. When steam is entirely replaced, however, diesels must fill out this function.

The Southern Railway says this: "We are shooting for complete dieselization, and we feel that the flexibility of the diesel will make it possible to bridge the traffic gaps without storing — barring, of course, a complete shutdown of all business." Over the past two or three years the Southern has been gauging its needs with a diesel "reservoir." Steam locomotives, active or stored, have been retained, together with supporting shop space, coaling stages and water plugs, on its main lines between Washington and Atlanta and between Cincinnati and Chattanooga. One by one, the remaining lines of the system have been dieselized and steam facilities have been torn out. When traffic has risen the SR has syphoned diesel units off its two steam-supported mains to these outlying divisions, replacing them with Pacifics and Mikados until the return of normal conditions. When the system is ready to replace all steam power it should have a good idea of how many extra diesel units it requires to protect its needs; and the remaining steam facilities it can then abandon will help to pay for them.

The Milwaukee Road is more cautious. "Our opinion is that complete dieselization of the entire property," it says, "is a long way in the future. As it looks now it will be some time before we can afford diesels on one-shift jobs, which is the limit of service on practically all of our branch lines. [We] also do not think it is economically advisable to keep expensive diesel engines in storage awaiting traffic during peak periods."

Diesels, in brief, cannot escape the law of diminishing returns. The New York Central has dieselized approximately 46 per cent of its locomotive mileage to date with 1235 units. At that rate of utilization, the system could theoretically replace all of its steam engines with a total diesel fleet of, say, 2500 units. But the Central, which is committed to 100 per cent dieselization by 1960-61, figures it will need more than 4600 units to do the job. NYC has not been lulled into

BUILDING ALCO-GE ROAD-SWITCHERS IN SCHENECTADY, N. Y.
Versatility boosted production one third.



ROANOKE READIES A BRAND-NEW Y-6b 2-8-8-2
Operation could not be bettered.

gross inefficiency by the success of its first postwar diesel purchases; it merely knows that in the long run, traffic will not permit all units to be busy all the time. Some will work eight hours and call it a day.

In its 1951 annual report Texas & Pacific faces up to the same problem. Early this year T&P expects to own 203 diesel units about which the report comments, "All of the company's current operations will then be dieselized and after the purchase of certain necessary stand-by units, our dieselization program begun in 1945 will be complete. The railroad feels that, in the final analysis, storing diesels will cost less money than the indefinite maintenance of steam power and its supporting facilities.

Meantime, the builders were doing all they could last year to reduce the maximum number of needed diesels by producing more versatile units, notably the road-switcher. Shipments of Alco-GE's 1600-horsepower model was up a third in 1951, while the production of EMD's GP-7, once confined to its Cleveland plant, was also assigned to the La Grange plant to keep pace with the demand. Such units, equipped with steam generators and wired for M.U. operations, were capable of doing almost any job a roundhouse foreman had to protect — from forwarding the Boston & Albany's *Paul Revere* to hauling through freight over the Great Northern's Northern California Extension.

Not all diesel operators were pondering "100 per cent" dates last year. The Pennsylvania Railroad, whose diesels drank 150 million gallons of oil in 1951 (and will double that diet before long), will shortly accomplish 82 per cent of freight, 92 per cent of switching, and 96 per cent of passenger services with either diesel or straight-electric units. With these statistics in mind, President Walter S. Franklin said, "We have about reached the goal where we expect to go on diesels."

Elsewhere, abundant on-line coal supplies and modern steam engines were still persuading two western roads to carefully limit their diesel installations. Union Pacific, after a long abstinence, ordered 42 units—to complete the dieselization of its lines west of Green River, Wyo., to California and Washington. Its Alco 4-6-6-4's and 4-8-8-4's and 4-12-2's, burning cheap coal dug in company mines, were in no immediate danger of displacement. Neighbor Northern Pacific, an early customer for diesel road freighters back in 1944, has duplicated UP's policy. For the record it says, "It is true that we can operate steam power more economically than most

railroads because of low-cost fuel available from our open pit mines in Montana." Off the record an operating man summed it up like this: "There is very little difference in costs between diesels and steam engines burning strip-mined coal. And that's on a gross ton-miles basis."

For a time it looked as if two seasonal roads, both subject to abnormal traffic fluctuations, were caught in a vise—neither could order enough diesels to cover a peak period that lasted only six months. Potato-hauling Bangor & Aroostook had, at best, been able to dieselize 75 per cent in winter and 100 per cent in summer until it swung a deal with the Pennsylvania. It purchased 12 road-switchers, enough to let it discard practically all its steam reserves, under an arrangement whereby the Pennsy borrows at least 10 of them each summer during the BAR's slack season. The Florida East Coast also works hard throughout the winter, hauling citrus fruit and visitors, and relaxes in the summer. Its hope of "winter dieselization" may be realized through Atlantic Coast Line control. ACL is a far larger property and has a more diversified traffic; under its wing the Flagler System could conceivably lessen its dependence upon stand-by steamers.

Nationally, if the railroads have passed the middle milepost of dieselization with a roster of about 17,000 units, how many will it take to wrap up the job? *Railway Age* put out one feeler in a year-end report, quoted some of "the boys with the sharp pencils" as estimating between 25,000 and 30,000 units total. If anything, that guess was low and could only be achieved if more roads pooled their power in the manner of the Bangor & Aroostook-Pennsylvania arrangement. But assuming that each road looks out for itself (and based upon individual records to that end), total dieselization will require at least 35,000 units.

High traffic levels, reinforced by the defense buildup program, plus high operating costs persuaded the carriers to order 5,205,580 diesel horsepower from the four biggest builders in 1951—less than a million down from the unprecedented sales of 1950.

Among the "Big Four," Alco-GE took the slightly slack season in its stride. Compared with 1950, the No. 2 builder jacked up its share of the total market from 17.3 per cent to 22.8 per cent— and was the only company to actually increase its sales, from 1,034,060 horsepower to 1,190,630. Before the diesel turned the motive power market upside down, American Locomotive had been the biggest U. S. builder; now spurred on by General Electric it was making a heroic fight to regain its lead. Time and time again throughout 1951 Alco-GE managed to invade the strongholds of EMD—roads like the Great Northern and the Louisville & Nashville which had previously purchased all of their road units from the GM associate. In product development Alco-GE turned out a new six-motor modification of its road-switcher and made the most of EMD's temporary lack of a similar unit.

UNION PACIFIC GAS TURBINE NEARS COMPLETION
A modification of "Old Glue Foot."

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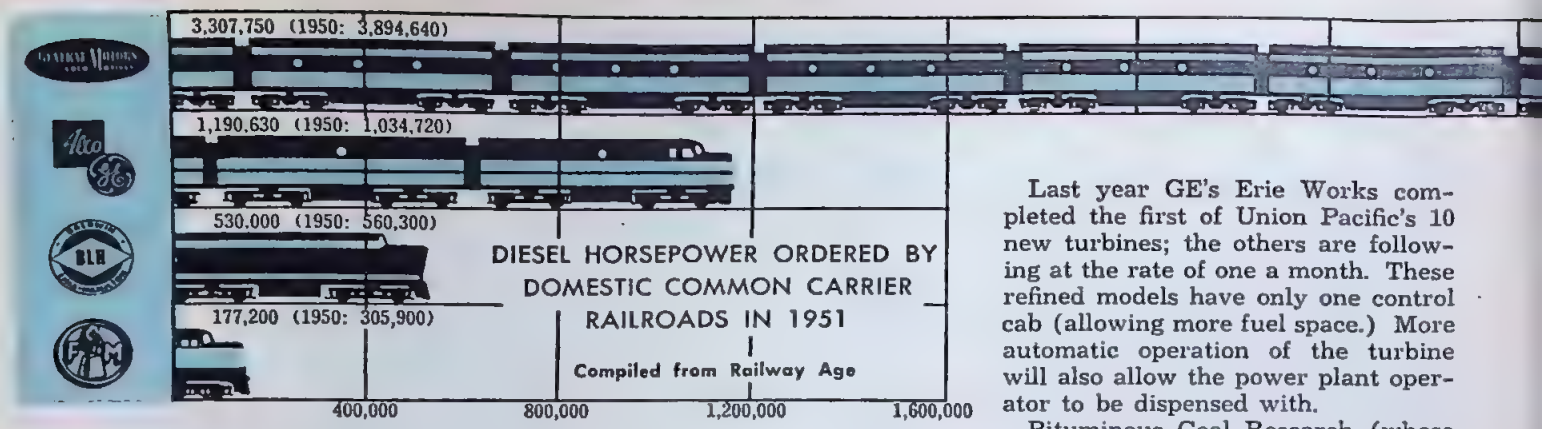
Just send us the names of your friends who might like TRAINS & TRAVEL, and we'll send samples. A postcard will do. Thank you.

A. C. KALMBACH, *Publisher*

Electro-Motive, with 63½ per cent of the market in its pocket (a mere 1½ per cent off its take in 1950), could digest the underdog's smart performance with no loss of dignity. Just to show its guests last June that its Locomotive Development Center was wide awake, EMD rolled out two exhibits: a three-motor, six-wheel, high-speed truck (for use beneath an unspecified future unit) and a baby 340-horsepower switcher which utilized Allison torque-converters on the same direct-drive principle as the Budd RDC.

For Baldwin-Lima-Hamilton, 1951 was a year of retrenchment. Its cut of the market fell from 12 per cent to 10.1 per cent, and it consolidated its locomotive division at Eddystone, Pa. Both its Whitcomb Locomotive Company (of Rochelle, Ill.) and its Lima Works turned out their last diesels. An examination of its sales still indicates an abnormal dependence upon a few old-line customers like the Pennsylvania and the Espee. Those who awaited the influence of Westinghouse (a big BLH stockholder) were still waiting at the year's end.

On the face of it, BLH had the company of Fairbanks-Morse in the doldrums department; FM got 0.3 per cent of the total market, sold 177,200 horsepower as compared with 305,900 in 1950. But the youngster of the "Big Four" was not too worried; new orders, one employee explained, were simply more in line with the capacity of its Beloit (Wis.) Works—which is small. FM, in fact, has been hampered by a lack of factory space since it first got into the diesel trade back in 1944 with a switcher for the Milwaukee Road. It subcontracted its road unit carbodies out to General Electric's Erie (Pa.) Works for a time, later made unsuccessful overtures to both Baldwin and Lima for the same arrangement. Finally circumstances forced it to retreat to Beloit, where FM presently builds not only all of its units but also some of their electrical equipment such as generators and traction motors. It has high hopes of



riveting its famous hand-holding-the-weight trademark on the noses of many of the 30,000 or 35,000 diesel units the theorists have in mind.

Not quite all of the U. S.'s locomotive engineering talent is engrossed with diesels, though. Last year a big handful of technicians kept sweating out the birth pains of the gas turbine. The nation's newest "big wind," a Westinghouse 4000-horsepower unit mounted on a B-B-B-B frame and powered by two turbines of equal size mounted side by side, ran tests on the Pittsburgh & Lake Erie from March 26 to June 9, 1951. During these trials it burned heavy residual oil, hauled up to 5800 tons, and exceeded 80 miles an hour in passenger service. Then it was taken back to the shops for design changes in its fuel handling and heating systems as well as its load control setup. It also got replacement turbines. As Trains & Travel goes to press the unit is undergoing new tests, this time on the Pennsylvania.

The nation's other — and original — gas-turbine, Union Pacific No. 50, has been returned to builder General Electric for dismantling after more than three years of exhaustive road trials. In an address before the New York Railroad Club last year, GE's R. A. Williamson asked and answered the pertinent question: "What have we found out? For some time now, 500 horsepower per axle has been tossed around as a sacred limit beyond which locomotives suddenly become slippery. This locomotive at its continuous rating develops 562 horsepower per axle, and at its maximum output of 4500 horsepower will develop 675 horsepower per axle. Therefore, many people gloomily prophesied that it would be slippery and hard to handle. As a matter of fact, it has acquired an enviable reputation for being exactly the opposite; some of the boys call it 'Old Glue Foot.' . . . I suppose we could credit this result partly to the fact that we have a 20-notch control instead of the usual 8-notch control, partly to the arrangement of the traction circuits, and partly to the characteristics of the running gear."

Williamson's diary contained other answers, too. Tunnels? "We . . . have run through a number of tunnels on the Union Pacific and tested at slow speeds going ahead and standing still. . . . We had no trouble in developing all the power we wanted [though] obviously it is impossible to back into your own exhaust for very long." Fuel? "We have burned several different kinds of bunker C oil with success, but we could not burn Buffalo paving asphalt."

GE'S NEW A.C. ELECTRIC FOR THE PENNSYLVANIA
An old warrior declared a new war.

Last year GE's Erie Works completed the first of Union Pacific's 10 new turbines; the others are following at the rate of one a month. These refined models have only one control cab (allowing more fuel space.) More automatic operation of the turbine will also allow the power plant operator to be dispensed with.

Bituminous Coal Research (whose bills are paid by both coal and railroad interests) finally installed a coal-fired, 4200-horsepower gas-turbine in its Dunkirk (N. Y.) lab and started running tests. Released results to date are encouraging: at any horsepower output over 700 the unit's fuel costs are progressively less than for a comparable diesel until, at peak output, the coal-burner costs $11.20 per hour for fuel as against $22.75 for the diesel. BCR's turbine project is still a long way behind its oil-fired companions — but the results of 1951 gave reasons for more hope.

Amid all this research came a rumor: Electro-Motive has ordered an Allison turbine for locomotive purposes if and when the competition gets too warm. EMD kept mum about details, but conceded in its 10,000th-unit ceremony report that "the search is for higher, more compact, and economical power for locomotives. Should the turbine engine ever prove its economic superiority over the present prime mover, it can be substituted for diesel power in both old and new GM units."

Everybody and his brother, it appeared, was working on the only steam turbine-electric, including purchaser Norfolk & Western, boilermaker Babcock & Wilcox, builders Baldwin-Westinghouse, and a few ex-Lima engineers. A 600-pound-pressure water-tube boiler has been constructed and tested successfully. The other partners hope to complete the 147-foot engine and tender this year. It is expected to equal a 4500-horsepower diesel in performance with a considerable saving in fuel costs.

Experimentally, 1951 was also marked by fresh fighting between two old warriors in the straight-electric section — General Electric and Westinghouse. Warfare broke out along the tracks of the Pennsylvania's New York Division when four experimental juice jacks showed up to compete for the affections of that road. Westinghouse was represented by a pair of two-unit 6000-horsepower locomotives; the units of one were mounted

on B-B-B frames while those of the other each rode on a pair of six-wheel trucks. The spark of both was an Ignitron-rectifier system which makes of the units "rolling substations," to quote an impressed onlooker. This arrangement, tested to Westinghouse's satisfaction on a multiple-unit car, is applicable to an A.C. trolley but secures the high tractive effort for which D.C. motors are famous; indeed, the new locomotives' axle-hung 500-horsepower traction motors are identical with those used on diesels.

GE's big guns were a pair of two-unit 5000-horsepower locomotives of single-phase A.C. design. Their designers were bent more on evolution than revolution; they figured that electrics, like diesels, should be built in units for traffic flexibility, with the emphasis on simplified maintenance. They assert that GE's units can double their horsepower output for short periods because of their improved A.C. motors. The locomotives have innards that Pennsy men have been familiar with since 1931, can double with several types of older motors, and are equipped with dynamic braking (for the first time on a straight electric).

STEAM got a tiny prick in the arm last year: Norfolk & Western, once again the only buyer in the land, ordered 15 additional 0-8-0's and six more Y-6b Mallet compounds to boost the "sales" of steam by exactly six units over 1950. President R. H. Smith budged not an inch from his company's traditional stand. "Our fleet of modern freight and passenger locomotives gives us an operation," said he, "which we believe could not be bettered in economy and reliability if retired in favor of any other existing type of locomotive."

Smith was armed with statistics to prove his point. "A study of the 23 principal railroads in this country, including our own, shows that . . . none of the other 22 surpassed the figure of 64,766 gross ton-miles per train-hour which we established in the year 1950." He noted that in 1950 as compared with 1923, N&W had 53 per cent fewer engines, burned 35 per cent less coal — but hauled 41 per cent more traffic. Among the other roads which echoed N&W in deed if not in word were Nickel Plate and Illinois Central, both of which still move their mainline tonnage behind steam. The pundits said that NKP and IC were still under pressure from bankers and stockholders to buy large blocks of freight diesels. Other, lesser-known, roads fought shy of dieselization, too. Custom Lima-built Santa Fe's and ex-Wabash 2-10-2's kept hauling the Chicago & Illinois Midland's coal drags; the Missabe Road actually enlarged its all-steam roster with 18 ex-Bessemer & Lake Erie 2-10-4's; and the Virginian was quite pleased with the performance of its ex-Chessie 0-8-0's. It was possible that all of them could still acquire brand-new power, for during the year Baldwin accepted an order for 20 New South Wales Mikes as well as a bid on seven Ecuadorian 2-8-0's.

As 1951 paraded by, however, the theme and content of its locomotive news remained almost entirely internal combustion. Lehigh Valley declared itself free of the steam engine, thus becoming the first Eastern trunk line to achieve complete dieselization; on its heels were Erie, Frisco and Texas & Pacific — all ready to file membership in the diesel fraternity within a matter of months. Just how soon a lot more lines could sign up might depend largely on Washington, which recently shaved metal allocations from 300 new diesel units per month to less than 200.

The drumming, whining, rhythmic, hoarse sound of U. S. diesels (depending on whose units you listened to) was heard around the world. Alco-GE further developed a healthy export business, especially to South America, while GM's Australian partner — Clyde Engineering — produced its first 1500-horsepower unit. The U. S.-owned Canadian plants picked up speed, too; General Motors Diesel booked orders for 133,700 horsepower, Montreal (Alco-GE) for 89,600, and Canadian (FM) for 28,800. It was reported that the National Railways of Mexico would be operating 200 diesels by mid-1952.

The continued climb in the efficiency of the American railroad machine, as tabulated through several indexes of performance, was one factor that impressed many foreign railroaders. Returns for the first nine months of 1951 indicated that average freight and passenger train speeds (16.9 and 37.6 miles an hour, respectively) were equal to or better than all previous years. Gross ton-miles per train-hour also hit a new high. Diesels were generally given the honors for these statistics of success but, as tall Bob Smith of the railroad which builds its own locomotives would say, "Steam still deserves a share of the credit."

Brain over brawn

THE old, old argument of whether man or the machine is the master was settled to my satisfaction one hot Texas noon in San Antonio. No. 6, the eastbound *Argonaut* of the Southern Pacific, had arrived with 18 standard-weight head-end cars, coaches and Pullmans. The heavy black Baldwin 4-8-4 was running through from El Paso to Houston without change, so she was detached from the train to run up to the fuel oil and water plugs, then recoupled so that the Alemite gun crews could renew the thick grease in her joints. At that point a thin little man in fresh blue overalls showed up, shoved his lunch pail up in the gangway, and took down a long-necked oil can. He made one of the most careful examinations of his charge I've ever seen an engineer make — feeling a journal here with the back of his hand, poking his oil can into that hole, always peering at the GS-1's running gear with a practiced, alert eye.

There was the usual comparison of watches and check of train orders, after which he climbed into the cab and took his seat on the right-hand side. During the interval before the departure he started idling the booster engine, wiped off the cab gauges and rubbed his armrest with a handful of cotton waste.

Eventually two air communication "beeps" sounded in the cab and the conductor's arm rose and fell. Highball! At that juncture the little engineer moved the reverse lever two or three notches behind center and pulled the inverted throttle arm half-way back. Then for a full 30 seconds he looked to be in a motionless trance. And what took place after that was too rapid for me to recall the exact sequence of events.

Somehow, though, he managed to shove the reverse all the way forward, kick off the air brakes, open up the booster engine, and haul the throttle wide open. A terrific whoosh from the 4-8-4's stack seemed to shake the platform and lift the train sheds as the entire train suddenly surged forward. I caught one last glimpse of him easing the throttle forward, giving the trembling GS-1 time to catch her breath. He couldn't have weighed more than 140 pounds — but he had a 221-ton locomotive wrapped around his index finger. — D.P.M.

90 miles an hour aboard a 4-6-4

BY DAVID P. MORGAN

ENGINEER Valentine Ureda pulls up the drop seat within the door of his Hudson's vestibuled cab, wipes it off with cotton waste, then pauses for a logical question:

"Ever ride a steam locomotive before?"

"Yes — but never on a road this fast."

Over the compressed-air wail of brake tests and the roar of an open blower he shouts back:

"Well, I should get her up to 90 today."

This, then, is it. This is the execution of a fantastic hope that has lived with you from the summer morn in 1934 when Chicago, Milwaukee, St. Paul & Pacific standard F-6 Hudson No. 6402 (now 127) averaged nearly 90 miles an hour on a stunt run out of Chicago to Milwaukee — a run that streamlined Atlantics came to emulate with oddly styled trains called *Hiawathas.* Oh yes, it took time to think of the Milwaukee Road in the same high-speed terms that has seemingly always been the monopoly of the Easterners. the Central and the Pennsy and the Reading. It took time to realize that this big midwestern granger road, with its bi-polar electrics and orange hues, was setting up sustained speed steam performance records of world stature. And it took time to believe that Longfellow had named a streamliner as well as an Indian in his poem.

Time, itself, has also wrought change. Instead of a *Hiawatha* behind the 12-wheel fluted tank of your Alco Hudson, there is just nameless No. 46 — an 80-minute 4 p.m. express to Chicago with through cars from Madison. Ahead of you there is no longer the exciting uncertainty of speeds in excess of 120; the enforced limit on the *Hi's* now is 100 (and 90 miles per hour for all other first-class trains). Also two of the road's famous *Hiawatha* locomotives now await uncertain disposition at the West Milwaukee Shops: Atlantic No. 3 is gradually being dismembered to supply parts for her three sisters, and Hudson No. 100 has bad boiler aches.

Fireman Wallace Edwards cracks the butterfly doors for a look at his fire, gives the stoker valves a fine adjustment, then continues his watch to the rear of the train.

"Highball!"

Brake shoes release their grip on the tall-drivered 4-6-4, her air horn bellows twice to bring down the crossing gates on the curve at 2nd and Clybourn streets, and Val notches back on the throttle. The time is 4:07 p.m., the consist is one old baggage car, five streamlined coaches, and parlor car P-460 from the state capital.

No. 105 stalks under the yellow board atop the signal bridge with her invisible stack making big talk on the grade out of downtown Milwaukee. On the Menonomee River bridge, 84-inch drivers rebel against the force of too much high-pressure steam and slip wildly until Val eases off. Now the speedometer needle has left 20 and is swinging upward to 30 . . . 35 . . . 38. A Chicago-bound freight out of Muskego Yard shoulders close by, waiting at the switch behind S-2 4-8-4 No. 214 until No. 46 clears. The Alco 4-6-4 bangs over North Western rails and is hitting 45 within sight of C&NW's Chase Street Yard and engine terminal.

Abruptly Ureda shoves in his throttle and begins working air. A red Mars light is flashing in the distance on the nose of a 5400-horsepower diesel freighter standing on the westbound main, and its fireman is on the ground with a fusee. No. 46 halts while the crew learns that the freight has broken in two and may have a derailed car fouling the eastbound track. Val acknowledges the warning and kicks off his brakes.

The 4-6-4 is angry at this sudden stop on the grade, and has to be coaxed into acceleration. Val knows he is unavoidably 10 minutes or more off the timecard, however, so he can't spare the rod and spoil the passengers. With her thin smoke trail dusting the gravestones of St. Adalbert's Cemetery, No. 105 goes under the Wisconsin Electric Power Company's belt line bridge at Powertown Junction at 45 miles an hour and is topping a mile a minute through Lake, where the summit of the grade is reached.

Edwards ducks away from his streamstyled cab window as the westbound *Olympian Hiawatha* rams past in a guttural roar of diesels and a slipstream of coaches and sleepers for the coast. Meantime the cab tied onto the tail of this bounding 4-6-4 has assumed a machine-gun vibration: no punishing jolts or jars at this 60- to 75-mile-an-hour gait, but a rapid clatter made up more of noise than of movement. It is also infinitely more worthwhile than resting behind the windshield of a diesel, you think.

THE magic needle is comfortably over the hump at 85 as you approach Sturtevant, junction for a branch to

Henry J. McCord.

Milwaukee Road F-7 Hudson No. 105 roars out of Elgin, Ill., with the Southwest Limited on the last leg of its run from Kansas City.

Racine and the "Southwest" main line to Kansas City. Once more Val must choke off speed because No. 23 is making a station stop on the westbound track; otherwise there would be the danger of an indiscreet patron walking across the main at the rear of 23's last car, right into the blur and suction of the Hudson's drivers. The speedometer falls back to a crawling 20 miles an hour.

Within less than two miles, No. 105 is running 60 miles an hour. The speed is progressively 83 at Truesdell, 88 at Russell, finally (as Val had promised) a cool 90. You wonder now how many times you have traveled the Milwaukee Road at that speed, casually reading a magazine or paper in the coaches, chatting with friends, or dining on a matchless roadbed which won't spill a full glass of water. And you consider the vast gulf between the calm of the coaches and the life aboard No. 105. Up here men are at work keeping a Hudson hot and taking her home to Chicago at 90 on the nose.

Ironically, perhaps, the 4-6-4 threatens to overshadow her two masters in your mind: the way her tank shoves and bounces behind your seat in the cab; the seasick liquid level in the water glass; the steady green eye from the cab signal box that drops through yellow, flashes red twice and returns to the Irish shade when passing each lineside semaphore.

No. 105 grooves the crossing of the Elgin, Joliet & Eastern at Rondout at 90 with Val shouting locomotive lore in your ear:

"She takes a long time to hit 90 after those two delays on the grade, but she holds right up to it after that."

The sun is out at Morton Grove, cutting through the gloom of a dull, cold March afternoon. Speed stays steady at 90 save for a brief drop to 85 at Edgebrook where a signal shows yellow for an instant, then blinks green at your oncoming Hudson. From your drop seat behind Valentine you're looking down over 40 feet of running board, watching superelevated curves and junctions and suburban stations come racing toward you instead of you toward them. Once or twice the 415,000-pound Alco sways wide, then quickly recovers posture.

Chicago ahead: 80 through Mayfair, 75 into Healy, then on down, down, down, to 16 miles an hour at Western Avenue while a North Western commuter train barks out behind a Pacific. No. 105 walks under the C&NW overhead crossing, curves right alongside the North Branch of the Chicago River, and strides into the dark Milwaukee Road side of Union Station. Val brings the train to a saunter, then to a stop at 5:27 p.m. No. 46 has made its 80-minute running time in the face of one stop and two unforeseen speed reductions.

You climb down the cab steps, pause beside 105's Walschaerts gear, then walk on.

Philip R. Hastings.

There is something fascinating in watching a train pass at sundown and in knowing that, although a blanket of darkness covers its passage, it will speed on through the quiet distances far beyond the place where the rails dissolve in the dusk. In the night you can hear its lonesome wail and the thunder of its trucks on the crossing out at the edge of town, and you know that the Limited has gone — right on time!

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